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ENVIRONMENTAL RESOURCE TECHNOLOGIES

August 10, 2015

CERTIFIED MAIL: 7004-2510-0004-6647-4149

Ms. Khrystie Vázquez
Project Manager
U.S. Environmental Protection Agency
City View Plaza II Building, 7th Floor, Suite 7000
#48 Rd. 165 Km. 1.2
Guaynabo, Puerto Rico 00968-8069

Re: SVE Pulsing Operations Progress Report No. 9, September 2014 to April 2015, Corrective Measure Study, Pfizer Pharmaceuticals LLC, Arecibo, Puerto Rico

Dear Ms. Vázquez:

On behalf of Pfizer Pharmaceuticals LLC please find attached the above referenced document in accordance with the requirements of the Revised Proposal for the Installation of Soil Vapor Extraction System (SVE) under a Corrective Measure Study and EPA approval letter of pulsing/cycling procedures dated April 20, 2010.

If you need additional information, please call us at your convenience.

Cordially,

José C. Agrelot, MSCE, PE
Project Officer

c: Ms. Lorna. Rodríguez, PREQB (Certified Mail 7004-2510-0004-6647-4156)
Mr. Adalberto Bosque, USEPA (via electronic mail)
Mr. William G. Gierke, Pfizer, Inc.

D750384 E145288

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SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

ERTEC JOB NO. E145288

Prepared for:

U.S. Environmental Protection Agency
City View Plaza II Building, 7th Floor, Suite 7000
#48 Rd. 165 Km. 1.2
Guaynabo, PR 00968-8069

Prepared date:

August 10, 2015

Prepared by:

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SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Date Prepared: August 10, 2015

Period Covered: September 4, 2014 through April 30, 2015

Project: Corrective Measure Study
Soil Vapor Extraction Operation & Maintenance
Pfizer Pharmaceuticals LLC

Prepared by: José C. Agrelot, PE, MSCE
Project Director

1.0 INTRODUCTION

This progress report contains a summary of the soil vapor extraction (SVE) pulsing/cycling operations performed during an 8-month period from September 4, 2014 through April 30, 2015 at the former Pfizer site in Arecibo, Puerto Rico. The pulsing operating period (for this reporting period) was performed from extraction wells VMW-1, VMW-2, and VMW-3C. **Figure 1** presents the location of the SVE system with extraction and vacuum monitoring wells.

This report includes, among others, the following: a description of the work performed, a summary of data collected through the above mentioned period, data interpretation, and recommendations for the operation of the SVE system, if applicable.

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2.0 BACKGROUND

On August 2009, Pfizer requested to EPA the implementation of pulsing/cycling procedures for the SVE system. This letter proposed modifications in SVE operations, to change from continuous mode to a pulsing cycle (one month on - then one off), with an initial test period of 6 months. Vapor samples to be collected after system start up stabilization parameters, and at the end of operation month.

The SVE pulsing/cycling program began on February 22, 2010 after verbal approval was received from EPA during a meeting on January 13, 2010. EPA approval letter was received on April 20, 2010. EPA approved continuation of pulsing/cycling procedures was indicated on a letter received on April 7, 2011.

Pulsing/cycling operations have been performed since February 2010 (SVE shutdown to initiate the off cycle period) with progress reports submitted for the following pulsing operational periods.

- March 2010 to August 2010
- September 2010 to February 2011
- March 2011 to November 2011
- December 2011 to June 2012
- July 2012 to December 2012
- January to June 2013
- July to January 2014
- February to August 2014

3.0 SYSTEM OPERATION

The SVE system operational and non-operational periods from September 4, 2014 to April 30, 2015 are described below:

Cycle 1: September 4 to October 17, 2014 (system off for 43 days)
October 17 to November 18, 2014 (system on for 32 days)

Cycle 2: November 18, 2014 to January 13, 2015 (system off for 56 days)
January 13 to February 27, 2015 (system on for 45 days)

Cycle 3: February 27 to April 1, 2015 (system off for 32 days)
April 1 to 30, 2015 (system on for 29 days)

During Cycle 1 the SVE system starts up during October 9, 2014, but was shut down after stabilization data and sampling was performed pending clean up of vegetation at SVE area. System operation was resumed on October 17, 2014 after clearance of vegetation. SVE system extraction and/or vacuum monitoring wells details are summarized in the following table:

Well ID	Well Diameter (inches)	Well Depth (feet bgs)	Screen Interval (feet bgs)	Well Sump Interval (feet bgs)
VMW-1	2	150	145 to 150	NA
VMW-2	2	170	165 to 170	NA
VMW-3C	2	195	190 to 195	NA
SVE-1	4	200	140 to 190	190 to 200

Notes:
bgs Below ground surface
NA Not applicable

Well construction details diagrams for extraction and vacuum monitoring wells are included in **Appendix 1**.

The following data was collected from the system during pulsing/cycling operation:

- Stabilization parameters during system start up;
- Vacuum gauge, flow rate and temperature readings from SVE system and extraction wells during system start up, and at the end of operating cycle;
- Flow rate and temperature readings from stack during system start up, and at the end of operating cycle;
- Organic Vapor Analyzer (OVA) readings after the activated carbon canister during system start up, and at the end of operating cycle.

SVE system measurements were collected with the bleeder valve partially open (as during normal operations) to maintain the blower unit operating within the manufacturer's recommended temperature range.

OVA readings were collected with portable OVA equipped with a photoionization detector (PID). The instrument was calibrated daily. OVA readings were collected directly from the exhaust stack (Stack) sampling port of the SVE system.

3.1 Other Activities

- December 23, 2014 Used carbon filter container pickup for disposal by Veolia.
- March 12, 2015 Site visit for replacement of activated carbon unit and blower maintenance.
- March 23, 2015 Site visit for blower maintenance.
- April 2, 2015 Used carbon filter container pickup for disposal by Veolia.

4.0 SAMPLE COLLECTION ACTIVITIES

Vapor samples collected from each extraction well, inlet sampling port and the exhaust stack during this period were identified as described in the following table:

Date	Extraction Well Sample ID	Inlet Sample ID	Stack Sample ID	Field Duplicate ID	Trip Blank ID
9-Oct-2014	VMW-1-7 VMW-2-7 VMW-3C-7	INLET-7	STACK-7		
18-Nov-2014	VMW-1-8 VMW-2-8 VMW-3C-8	INLET-8	STACK-8	SVE-A (duplicate of sample INLET-8)	TB-111814
13-Jan-2015	VMW-1-9 VMW-2-9 VMW-3C-9	INLET-9	STACK-9	SVE-A (duplicate of sample VMW-1-9)	TB-011315
27-Feb-2015	VMW-1-10 VMW-2-10 VMW-3C-10	INLET-10	STACK-10		TB-022715
1-Apr-2015	VMW-1-11 VMW-2-11 VMW-3C-11	INLET-11	STACK-11	SVE-A (duplicate of sample VMW-2-11)	TB-040115
30-Apr-2015	VMW-1-12 VMW-2-12 VMW-3C-12	INLET-12	STACK-12		

Samples obtained during this pulsing/cycling period were collected in Summa canisters, stored and sealed in cardboard box for shipment via FedEx to Test America-Burlington in Vermont. Proper Chain-of-Custody documentation accompanied the samples to the laboratory. Copy of the Chain-of-Custodies is included in **Appendix 2**.

5.0 SUMMARY OF LABORATORY ANALYSES

Vapor samples collected during this pulsing/cycling period were analyzed for chloroform, carbon tetrachloride, acetone and methylene chloride following USEPA Compendium Method TO-15, "Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas

Chromatography/Mass Spectometry (GC/MS)", January 1997. Laboratory deliverables were equivalent to Contract Laboratory Program Statement of Works (CLP SOWs) for organics.

Analytical results for samples obtained during October and November 2014 were validated according to EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15," SOP HW-31 Revision 4, October, 2006). Analytical results for samples obtained during January, February and April 2015 were validated according to EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31, Revision 6, June, 2014). Eden Environmental, LLC from Baton Rouge, Louisiana performed the data validation.

A summary of validated analytical results for air samples collected from extraction wells VMW-1, VMW-2, and VMW-3C, INLET, and exhaust stack during Cycle 1 (October-November 2014), Cycle 2 (January-February 2015) and Cycle 3 (April 2015) are provided in **Tables 1**, **2**, and **3**, respectively. Copies of the data validation reports are included in **Appendix 3**.

6.0 SUMMARY OF DATA FROM SVE SYSTEM OPERATION

Table 4 includes a summary of stabilization data obtained during start up of the SVE system on October 9, 2014, October 17, 2014, and January 13 and April 1, 2015. Stabilization parameters were collected prior to sampling activities.

Table 5 includes a summary of the operation and monitoring data (vacuum, pressure, flow rate, temperature readings from SVE system and OVA readings from exhaust stack) during extraction procedures on October-November 2014, January-February

2015 and April 2015. **Figure 2** presents the SVE system lay-out.

7.0 DATA REDUCTION AND INTERPRETATION

The pulsing operating period (for this reporting period) was performed from extraction wells VMW-1, VMW-2, and VMW-3C as listed below:

- Cycle 1: October 9 to November 18, 2014 – on for 32 days (771 hours).
- Cycle 2: January 13 to February 27, 2015 – on for 45 days (1081 hours).
- Cycle 3: April 1 to 30, 2015 – on for 29 days (699 hours).

Each pulsing event or period was monitored on two (2) occasions, one at the initial startup after stabilization and one at the end of the period prior to shutdown. Other site visits performed are described on Section 3.1 of this report. The following sections include a summary of the data collected.

7.1 SVE System Data Calculations

The following parameters were calculated from the data included in **Table 5**: vacuum, average airflow rate and total airflow rate and percent of operation time compared to total operating time for extraction wells VMW-1, VMW-2 and VMW-3C. This data was calculated based on two (2) readings for extraction wells VMW-1, VMW-2, VMW-3C during operating period in October-November 2014, January-February 2015 and April 2015 as summarized in **Table 5**.

The average airflow rate and vacuum was obtained by adding the flow rate and vacuum readings per monitoring and divided by the number of days in which the readings were collected. The total airflow rate was obtained by multiplying the average flow rate by

the total operating hours converted to minutes. **Table 5** included the average airflow rate and total airflow rate for extraction wells VMW-1, VMW-2 and VMW-3C. A summary of these parameters for each extraction well is presented below:

CYCLE 1 (October 9 to November 18, 2014)

Operational Cycle	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)	Average Vacuum Extraction Well (in H_2O)	Average Vacuum Intake Blower (in H_2O)	Operational Time (days)	Percent run time of SVE System (%)
October-November 2014	VMW-1	16.37	757,276	5.3	36.7	32	100
	VMW-2	21.29	984,875	12			
	VMW-3C	25.35	1,172,691	20.7			

CYCLE 2 (January 13 to February 27, 2015)

Operational Cycle	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)	Average Vacuum Extraction Well (in H_2O)	Average Vacuum Intake Blower (in H_2O)	Operational Time (days)	Percent run time of SVE System (%)
January-February 2015	VMW-1	13.07	874,720	9.0	38	45	100
	VMW-2	17.04	1,105,214	11.5			
	VMW-3C	33.83	2,194,214	22.0			

CYCLE 3 (April 1 to 30, 2015)

Operational Cycle	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)	Average Vacuum Extraction Well (in H_2O)	Average Vacuum Intake Blower (in H_2O)	Operational Time (days)	Percent run time of SVE System (%)
April 2015	VMW-1	10.50	440,370	12.5	31	29	100
	VMW-2	10.82	453,791	17.5			
	VMW-3C	17.07	715,916	22.0			

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7.2 Removal Rate Calculation

The removal and emission rate is calculated using the laboratory results in milligrams per liter (mg/L) in air for each compound detected times the air flow rate. The relation used for this calculation is:

$$R = Q \times C$$

where: R = removal rate (lbs/hr)
Q = air flow rate (ft^3/min; ACFM)
C = compound concentration (mg/L)

As airflow rate and compound concentration are the only two variables in this equation, it was simplified as follows:

$R = ft^3/min \times mg/L \times 60\ min/hr \times 28.32\ L/\ ft^3 \times 1lbs/453.6 \times 10^3$

$R = (ft^3/min \times mg/L)/266.95$

Where:	R	=	removal rate in lbs/hr
	ft^3/min	=	air velocity measured at time of sample collection
	mg/L	=	detected concentration of each compound analyzed
	266.95	=	constant resulting from the reduction of conversion factors in the equation

The rate of removal in lbs/hr for each compound detected at VMW-1, VMW-2, and VMW-3C for the operating period of October-November 2014, January-February 2015 and April 2015 is summarized in **Tables 6**, **7**, and **8**, respectively. The rate of removal in lbs/hr for each compound detected at the exhaust stack during this period is summarized in **Table 9**. The resulting data in lbs/hr of compound removed, and emitted to the atmosphere is then multiplied by 24 to obtain the mass in pounds per day (lbs/day).

The daily rate of mass removal and air emissions was calculated based on the laboratory results presented in **Tables 1**, **2**, and **3**. **Tables 6**, **7**, and **8** presents the daily rate of mass removal for each compound from the SVE system during extraction procedures from wells VMW-1, VMW-2, and VMW-3C, respectively. **Table 9** presents the daily rate of emission of VOCs to the atmosphere during operation of wells VMW-1, VMW-2, and VMW-3C. These daily rates are calculated for the day samples were collected. A total amount of VOCs emitted from the exhaust stack in lbs/hr and lbs/day is included on the last two columns in **Table 9**.

The amount of VOCs removed from the subsurface through extraction wells VMW-1, VMW-2, and VMW-3C during operating periods include in this report are summarized in the following tables:

OCTOBER-NOVEMBER 2014 (32 days / 771 hrs.)

EXTRACTION WELL	Methylene chloride Removal (lbs)	Chloroform Removal (lbs)	CCl_4 Removal (lbs)	Acetone Removal (lbs)	Total Removal (lbs)
VMW-1	0.0	0.1411	4.5922	0.0	4.7333
VMW-2	0.0	0.4884	11.5679	0.0	12.0563
VMW-3C	0.0	0.6413	17.3723	0.0	18.0136
TOTAL VOCs	**0.0**	**1.2708**	**33.5324**	**0.0**	**34.8032**

JANUARY-FEBRUARY 2015 (45 days / 1045 hrs.)

EXTRACTION WELL	Methylene chloride Removal (lbs)	Chloroform Removal (lbs)	CCl_4 Removal (lbs)	Acetone Removal (lbs)	Total Removal (lbs)
VMW-1	0.0	0.3042	20.3462	0.0	20.6504
VMW-2	0.0	0.5557	21.7042	0.0	22.2599
VMW-3C	0.0	1.3084	41.3145	0.0	42.6229
TOTAL VOCs	**0.0**	**2.1683**	**83.3649**	**0.0**	**85.5332**

APRIL 2015 (29 days / 699 hrs.)

EXTRACTION WELL	Methylene chloride Removal (lbs)	Chloroform Removal (lbs)	CCl_4 Removal (lbs)	Acetone Removal (lbs)	Total Removal (lbs)
VMW-1	0.0	0.2129	7.7502	0.0	7.9631
VMW-2	0.0	0.2394	5.5358	0.0	5.7752
VMW-3C	0.0	0.4913	14.7789	0.0	15.2702
TOTAL VOCs	**0.0**	**0.9436**	**28.0649**	**0.0**	**29.0085**

Approximately 35, 86 and 29 lbs of VOCs were removed (34, 83 and 28 of which was Carbon Tetrachloride) from the subsurface through wells VMW-1, VMW-2 and VMW-3C during the period of October-November 2014, January-February 2015 and April 2015, respectively. A graph depicting cumulative mass removal in lbs. versus time for total VOCs removed from the SVE system during this period are included in **Appendix 4**.

Emissions from the SVE system are below the limits established by the Puerto Rico Environmental Quality Board (PREQB) at 3 lbs/hr or 15 lbs/day as indicated in **Table 9**.

8.0 SVE SYSTEM DOWNTIME AND CORRECTIVE ACTION

The SVE system was operated on a continuous basis during the pulsing/cycling periods on October-November 2014, January-February 2015 and April 2015. No water was found at the air/moisture separator during these operation periods.

9.0 SVE PULSING/CYCLING PROGRAM EVALUATION

Table 10 presents a summary of SVE system operation since February 2000 until April 2015. This table includes VOC Mass Removal for each extraction well. Graphs

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indicating the total VOC monthly extraction for each well and an updated graph showing cumulative mass removed for wells VMW-1, VMW-2 and VMW-3C for steady state determination are included in **Appendix 4**. Total amount of mass removed per months of operation since February 2010 (SVE shutdown to initiate the off cycle period) from extraction wells VMW-1, VMW-2 and VMW-3C is summarized below:

Operational Month	Mass Removed (lbs)	Reporting Period
April 2010	6.01	March to August 2010
June 2010	35.57	
August 2010	74.53	
October 2010	59.84	September 2010 to February 2011
December 2010	24.41	
February 2011	39.83	
April 2011	50.87	March to November 2011
June 2011	47.32	
August 2011	51.15	
November 2011	27.80	
February 2012	34.28	December 2011 to June 2012
April 2012	18.83	
June 2012	17.44	
August 2012	120.68	July to December 2012
October 2012	34.43	
December 2012	20.09	
February 2013	19.98	January to June 2013
April 2013	29.80	
June 2013	45.80	
August 2013	54.55	July 2013 to January 2014
October 2013	2.66	
Dec 2013 – Jan 2014	1.01	
February-March 2014	24.84	February to August 2014
May 2014	112.79	
August 2014	30.36	
October-November 2014	34.80	September 2014 to April 2015
January-February 2015	85.53	
April 2015	29.01	
TOTAL	**1134.21**	

Emissions from the SVE system are consistently below the limits of 3 lbs/hr or 15 lbs/day.

9.1 Recommendations

Based on the data obtained during this 8-month period (September 2014 to April 2015) the following is recommended:

- Continue with the SVE pulsing/cycling program to accelerate site cleanup – from extraction wells VMW-1, VMW-2 and VMW-3C until stabilization is achieved as per the approved Corrective Measure Plan - including sampling and monitoring at the beginning and end of each operation cycle. Given the greater mass removal for the January/February 2015 45 day operational period that followed 56 days of down-time (i.e. more than double the mass removed for other periods with approximately 30 days of off/on time), we recommend testing a pulsing operational period of 60 days off and 60 days on for 2015/2016.

FIGURES

SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
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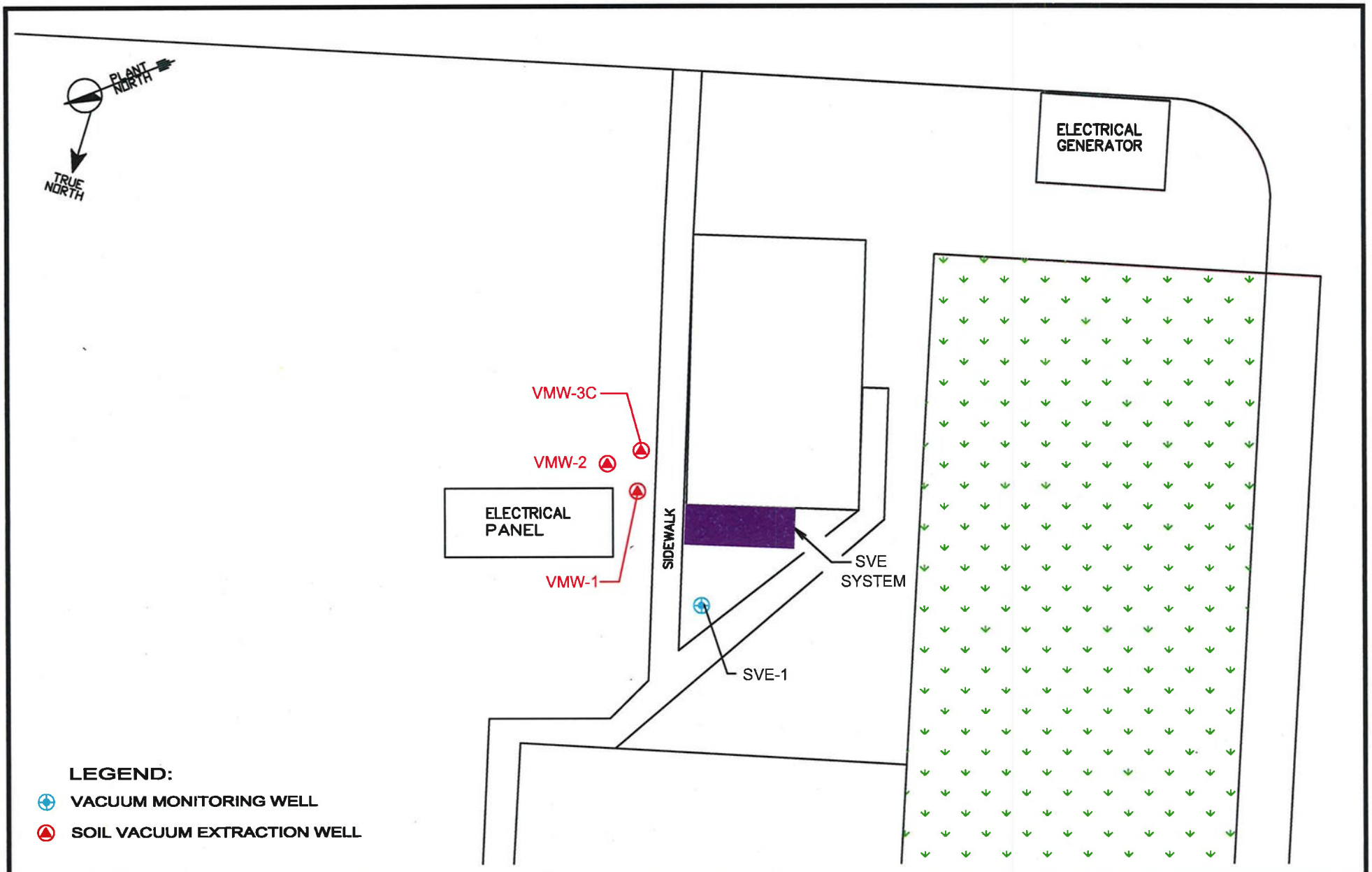

FIGURE 1 - SVE SYSTEM LOCATION
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

SCALE: NTS	DWG BY: EGN	REV.: WIM	FILE NO.: FIG 1	JOB NO.: E145288

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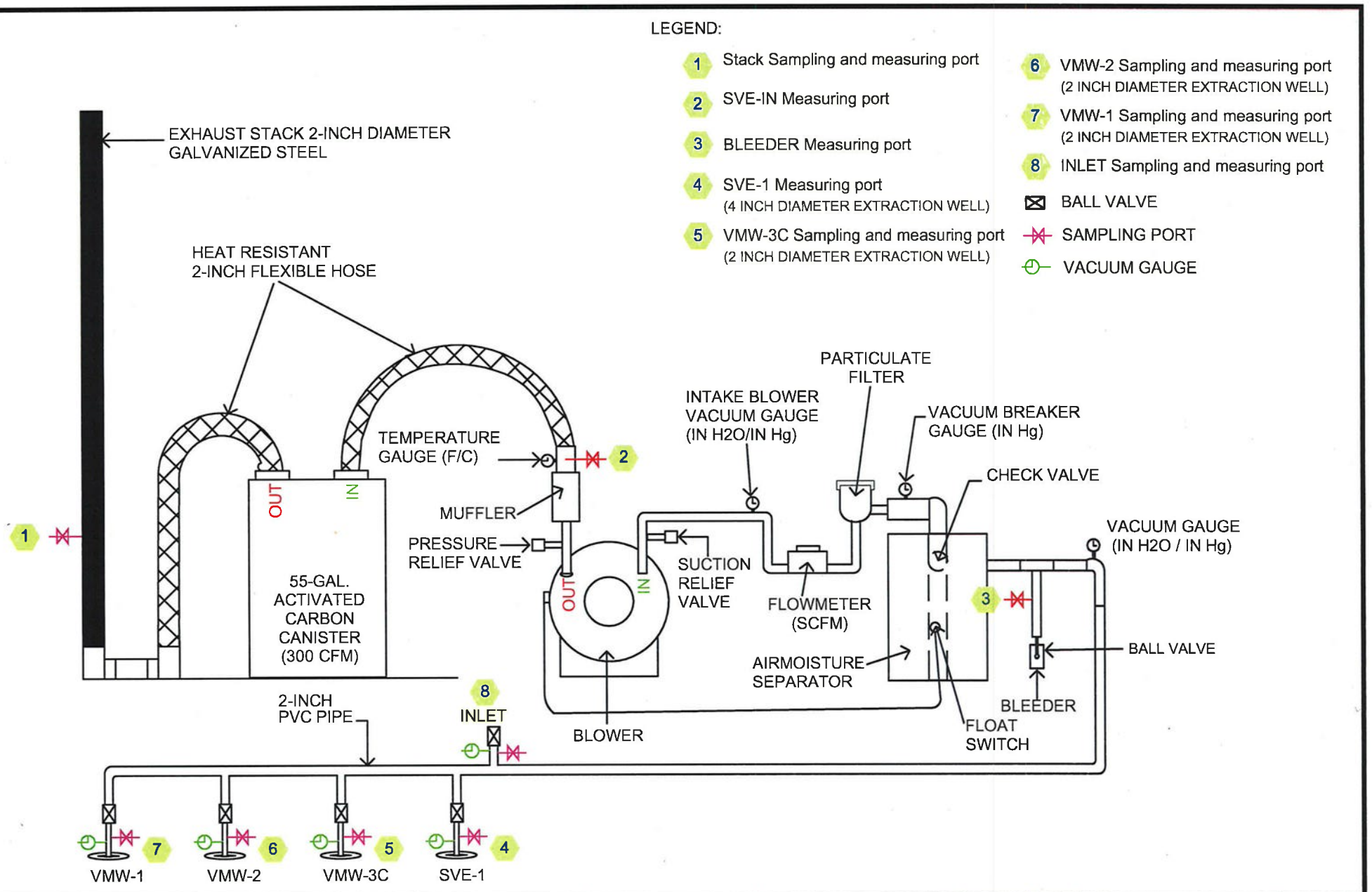

FIGURE 2 - SOIL VAPOR EXTRACTION CURRENT SYSTEM LAY-OUT
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

SCALE: NTS	DWG BY: EGN	REV.: WM	FILE NO.: FIG 2	JOB NO.: E145288

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TABLES

SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E145288

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TABLE 1

CYCLE 1: OCTOBER-NOVEMBER 2014 AIR SAMPLES VALIDATED ANALYTICAL RESULTS
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Sample ID	Sample Location	Collection Date (day-mo-yr)	Acetone (ppbv)	Methylene chloride (ppbv)	Chloroform (ppbv)	Carbon tetrachloride (ppbv)
SVE System Start up Samples						
VMW-1-7	Extraction well	9-Oct-14	38000U	3800U	**4800**	**180,000**
VMW-2-7	Extraction well	9-Oct-14	23000U	2300U	**5300**	**130,000**
VMW-3C-7	Extraction well	9-Oct-14	16000U	1600U	**3900**	**94,000**
INLET-7	Extraction wells combined sampling port	9-Oct-14	20000U	2000U	**4300**	**120,000**
STACK-7	Stack outlet pipe	9-Oct-14	1100U	110U	**290**	**5100**
SVE System Shutdown Samples						
VMW-1-8	Extraction well	18-Nov-14	9800U	980U	**5600**	**76,000**
VMW-2-8	Extraction well	18-Nov-14	7500U	750U	**4200**	**58,000**
VMW-3C-8	Extraction well	18-Nov-14	7100U	710U	**2500**	**45,000**
INLET-8	Extraction wells combined sampling port.	18-Nov-14	5400U	540U	**2300**	**35000**
SVE-A	Field duplicate of sample INLET-8	18-Nov-14	7300U	730U	**3100**	**48000**
STACK-8	Stack outlet pipe	18-Nov-14	850U	85U	**320**	**5600**
TB-111814	Trip blank[1/]	18-Nov-14	5.0U	0.50U	0.20U	0.20U

Notes:

ppbv Parts per billion per volume.

1/ Trip blank provided by TestAmerica Laboratories.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

TABLE 2

CYCLE 2: JANUARY-FEBRUARY 2015 AIR SAMPLES VALIDATED ANALYTICAL RESULTS
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Sample ID	Sample Location	Collection Date (day-mo-yr)	Acetone (ppbv)	Methylene chloride (ppbv)	Chloroform (ppbv)	Carbon tetrachloride (ppbv)
SVE System Start up Samples						
VMW-1-9	Extraction well	13-Jan-15	48000U	4800U	**5700**	**320,000**
SVE-A	Field duplicate of sample **VMW-1-9**	13-Jan-15	58000U	5800U	**6600**	**350,000**
VMW-2-9	Extraction well	13-Jan-15	43000U	4300U	**8200**	**250,000**
VMW-3C-9	Extraction well	13-Jan-15	27000U	2700U	**5900**	**150,000**
INLET-9	Extraction wells combined sampling port	13-Jan-15	30000U	3000U	**5600**	**170,000**
STACK-9	Stack outlet pipe	13-Jan-15	570U	57U	**220**	**3800**
TB-011315	Trip blank[1/]	13-Jan-15	5.0U	0.50U	0.20U	0.20U
SVE System Shutdown Samples						
VMW-1-10	Extraction well	27-Feb-15	2800U	280U	**2000**	**23000**
VMW-2-10	Extraction well	27-Feb-15	330U	33U	**150**	**1900**
VMW-3C-10	Extraction well	27-Feb-15	3500U	350U	**860**	**16000**
INLET-10	Extraction wells combined sampling port.	27-Feb-15	6500U	650U	**2000**	**32000**
STACK-10	Stack outlet pipe	27-Feb-15	880U	88U	**370**	**6500**
TB 022715	Trip blank[1/]	27-Feb-15	5.0U	0.50U	0.20U	0.20U

Notes:

ppbv Parts per billion per volume.

1/ Trip blank provided by TestAmerica Laboratories.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

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TABLE 3

CYCLE 3: APRIL 2015 AIR SAMPLES VALIDATED ANALYTICAL RESULTS
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Sample ID	Sample Location	Collection Date (day-mo-yr)	Acetone (ppbv)	Methylene chloride (ppbv)	Chloroform (ppbv)	Carbon tetrachloride (ppbv)
SVE System Start up Samples						
VMW-1-11	Extraction well	1-Apr-15	35000U	3500U	**5200**	**170,000**
VMW-2-11	Extraction well	1-Apr-15	26000U	2600U	**5100**	**100,000**
SVE-A	Field duplicate of sample VMW-2-11	1-Apr-15	27000U	2700U	**5500**	**120,000**
VMW-3C-11	Extraction well	1-Apr-15	21000U	2100U	**4600**	**110,000**
INLET-11	Extraction wells combined sampling port	1-Apr-15	21000U	2100U	**4800**	**120,000**
STACK-11	Stack outlet pipe	1-Apr-15	**6.6**	**0.13J**	**0.23**	**2.9**
TB-040115	Trip blank[1/]	1-Apr-15	5.0U	0.50U	0.20U	0.20U
SVE System Shutdown Samples						
VMW-1-12	Extraction well	30-Apr-15	12000U	1200U	**3400**	**53,000**
VMW-2-12	Extraction well	30-Apr-15	8100U	810U	**2900**	**43,000**
VMW-3C-12	Extraction well	30-Apr-15	7500U	750U	**1700**	**32,000**
INLET-12	Extraction wells combined sampling port.	30-Apr-15	9400U	940U	**2300**	**42,000**
STACK-12	Stack outlet pipe	30-Apr-15	1100U	110U	**340**	**7200**

Notes:

ppbv — Parts per billion per volume.

1/ — Trip blank provided by TestAmerica Laboratories.

U — The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

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TABLE 4

SVE START UP STABILIZATION DATA
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 1 Operational Period: October 9 to November 18, 2014 (771 hours/32 days)

Starting Date (day-mo-yr)	SVE On[1/]	Reading Time	Extraction Well VMW-1			Reading Time	Extraction Well VMW-2			Reading Time	Extraction Well VMW-3C		
			Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)
9-Oct-14	11:00	11:10	4 / 0.3	623.2	89.7	11:16	12 / 0.9	730.6	89.8	11:21	20 / 1.5	742.2	89.9
		11:30	4 / 0.3	622.5	90.4	11:35	12 / 0.9	752	90.6	11:40	20 / 1.5	740.9	92.0
		12:00	4 / 0.3	622	91.3	12:06	12 / 0.9	729.9	91.2	12:12	20 / 1.5	750.6	91.8

Reading Time	Inlet			Stack			Vacuum Breaker (inHg)	Intake Blower (inH_2O/inHg)	Flow Meter (ACFM)	Blower Temp. (°F)
	Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)	Flow Rate (ft/min)	Temp. (°F)	OVA (ppm)				
11:21	22 / 1.6	809.9	89.3	4210.6	118.6	0.0	2.0	38 / 2.8	108	120.0
11:40	22 / 1.6	812.6	90.2	4212.2	119.9	0.0	2.0	38 / 2.8	108	124.0
12:12	22 / 1.6	826.3	90.7	4214	123.0	0.0	2.0	38 / 2.8	108	130.0

Starting Date (day-mo-yr)	SVE On[2/]	Reading Time	Extraction Well VMW-1			Reading Time	Extraction Well VMW-2			Reading Time	Extraction Well VMW-3C		
			Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)
17-Oct-14	10:30	11:00	4 / 0.3	899.6	92.0	11:10	10 / 0.7	1088.9	97.7	11:20	20 / 1.5	1387.9	96.6
		11:30	4 / 0.3	900.7	92.2	11:40	12 / 0.9	1090	98.3	11:50	20 / 1.5	1392.2	96.7
		12:00	4 / 0.3	902.9	92.9	12:10	12 / 0.9	1093.5	99.7	12:20	20 / 1.5	1394	96.9

Reading Time	Inlet			Stack			Vacuum Breaker (inHg)	Intake Blower (inH_2O/inHg)	Flow Meter (ACFM)	Blower Temp. (°F)
	Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)	Flow Rate (ft/min)	Temp. (°F)	OVA (ppm)				
11:20	20 / 1.5	968.6	90.9	4973.0	115.2	0.0	1.6	36 / 2.6	108	130.0
11:50	22 / 1.6	970.0	91.5	5000.1	117.9	0.4	1.8	38 / 2.8	108	132.0
12:20	22 / 1.6	970.9	91.8	5009.3	119.4	0.7	1.8	38 / 2.8	108	134.0

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TABLE 4

SVE START UP STABILIZATION DATA
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 2 Operational Period: January 13 to February 27, 2015 (1081 hours/45 days)

Starting Date (day-mo-yr)	SVE On	Reading Time	Extraction Well VMW-1			Reading Time	Extraction Well VMW-2			Reading Time	Extraction Well VMW-3C		
			Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)
13-Jan-15	10:30	11:10	5 / 0.4	618.2	84.8	11:13	10 / 0.7	872.8	82.8	11:15	20 / 1.5	1480.9	81.2
		11:19	8 / 0.6	627.6	85.4	11:22	12 / 0.9	879	83.2	11:26	22 / 1.6	1493	81.8
		11:32	12 / 0.9	630	85.0	11:36	14 / 1.0	881.6	86.0	11:43	22 / 1.6	1502	82.0

Reading Time	Inlet			Stack			Vacuum Breaker (inHg)	Intake Blower (inH_2O/inHg)	Flow Meter (ACFM)	Blower Temp. (°F)
	Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)	Flow Rate (ft/min)	Temp. (°F)	OVA (ppm)				
11:15	22 / 1.6	1238.0	81.2	5402	98.0	1.5	2.0	36 / 2.6	108	122.0
11:26	22 / 1.6	1238.9	81.0	5436	99.0	1.7	2.0	36 / 2.6	108	128.0
11:43	24 / 1.8	1240.1	81.8	5444	99.8	2.0	2.0	36 / 2.6	108	128.0

CYCLE 3 Operational Period: April 1 to 30, 2015 (699 hours/29 days)[1/]

Starting Date (day-mo-yr)	SVE On	Reading Time	Extraction Well VMW-1			Reading Time	Extraction Well VMW-2			Reading Time	Extraction Well VMW-3C		
			Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)		Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)
1-Apr-15	9:05	10:00	12 / 0.9	684.2	90.2	10:05	13 / 1.0	730.2	93.0	10:09	22 / 1.6	742.4	94.0
		10:16	13 / 1.0	699	91.0	10:18	14 / 1.0	735	93.7	10:21	22 / 1.6	749	94.4
		10:29	13 / 1.0	696.8	91.4	10:32	14 / 1.0	733.6	93.9	10:36	22 / 1.6	750.6	94.9

Reading Time	Inlet			Stack			Vacuum Breaker (inHg)	Intake Blower (inH_2O/inHg)	Flow Meter (ACFM)	Blower Temp. (°F)
	Vacuum (inH_2O/inHg)	Flow Rate (ft/min)	Temp. (°F)	Flow Rate (ft/min)	Temp. (°F)	OVA (ppm)				
10:09	22 / 1.6	2599	89.0	5009	102.0	0.0	2.0	36 / 2.6	108	128.0
10:21	24 / 1.8	2612	88.7	5001.3	103.1	0.0	2.0	38 / 2.8	108	130.0
10:36	24 / 1.8	2620.2	89.2	498.9	103.6	0.0	2.0	38 / 2.8	108	132.0

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Notes:

1/ System shutdown at 15:00 after monitoring and sampling activities due to vegetation condition at SVE area.
2/ System start up after clearance of vegetation at SVE area.
in Hg Inches of mercury.
in H_2O Inches of water.
ft/min Feet per minute.
ACFM Actual cubic feet per minute.
°F Degrees Farenheit.
OVA Organic vapor analyzer.
ppm Parts per million.

TABLE 5

SVE OPERATION DATA
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 1 Operational Period: October 9 to November 18, 2014 (771 hours/32 days)

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Vacuum Reading		VMW-2 Vacuum Reading		VMW-3C Vacuum Reading		INLET Vacuum Reading		Vacuum Breaker	Intake Blower		SVE-1 Vacuum Reading	SVE-IN Pressure Reading	
					(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in H_2O)	(psi)
9-Oct-14[1/]	11:00	15:00	12:20	Partial	6	0.4	12	0.9	22	1.6	24	1.8	1.8	36	2.6	0.00	13.0	0.47
17-Oct-14[2/]	10:30		12:30	Partial	4	0.3	12	0.9	20	1.5	22	1.6	1.8	36	2.6	0.00	13.0	0.47
18-Nov-14		15:30	13:30	Partial	6	0.4	12	0.9	20	1.5	24	1.8	2.1	38	2.8	0.00	13.0	0.47
Average vacuum extraction wells:					***5.3***	***0.4***	***12.0***	***0.9***	***20.7***	***1.5***								
Average vacuum inlet:														***36.7***	***2.7***			
Percent operating time for SVE system:	**100%**																	

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Flow Rate		VMW-2 Flow Rate		VMW-3C Flow Rate		INLET Flow Rate		Bleeder Valve Flow Rate		SVE Meter Flow Rate	SVE-IN Flow Rate		STACK Flow Rate	
					(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ACFM)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)
9-Oct-14[1/]	11:00	15:00	12:20	Partial	794	17.31	729.2	15.90	905	19.73	1076	23.46	1310	28.56	108	5242	114.28	5171	112.73
17-Oct-14[2/]	10:30		12:30	Partial	NA	NA	NA	NA	NA	NA	971.6	21.18	5395	117.61	108	5246.6	114.38	5008.9	109.19
18-Nov-14		15:30	13:30	Partial	708	15.43	1224	26.68	1421	30.98	1283.2	27.97	5990	130.58	108	5339	116.39	3632.1	79.18
Average airflow rate extraction wells in ft^3/min:						***16.37***		***21.29***		***25.35***									
Total airflow rate extraction wells in ft^3/min:						***757,276***		***984,875***		***1,172,691***									

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Temperature		VMW-2 Temperature		VMW-3C Temperature		INLET Temperature		SVE-IN Temperature		Blower Temperature		STACK Temperature		OVA
					(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(ppm)
9-Oct-14[1/]	11:00	15:00	12:20	Partial	87.0	30.6	90.5	32.5	88.5	31.4	91.1	32.8	154.3	67.9	134.0	56.7	115.0	46.1	1.0
17-Oct-14[2/]	10:30		12:30	Partial	NA	NA	NA	NA	NA	NA	91.6	33.1	155.8	68.8	136.0	57.8	118.6	48.1	1.0
18-Nov-14		15:30	13:30	Partial	84.1	29.0	85.5	29.7	85.0	29.4	82.1	27.8	153.0	67.2	132.0	55.6	123.0	50.6	0.0

Notes:

1/ System shutdown at 15:00 after monitoring and sampling activities due to vegetation condition at SVE area.

2/ System start up on 10/17/2014 after clearance of vegetation at SVE area.

NA Not available.

in Hg Inches of mercury.

in H_2O Inches of water.

ft/min Feet per minute.

ft^3/min Cubic feet per minute.

ACFM Actual cubic feet per minute.

°F Degrees Farenheit.

°C Degrees Celsius.

OVA Organic vapor analyzer.

ppm Parts per million.

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TABLE 5

SVE OPERATION DATA
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 2 Operational Period: January 13 to February 27, 2015 (1081 hours/45 days)

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Vacuum Reading		VMW-2 Vacuum Reading		VMW-3C Vacuum Reading		INLET Vacuum Reading		Vacuum Breaker	Intake Blower		SVE-1 Vacuum Reading	SVE-IN Pressure Reading	
					(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in Hg)	(in Hg)	(in H_2O)	(in Hg)	(in H_2O)	(in H_2O)	(psi)
13-Jan-15	10:30		13:05	Partial	12	0.9	14	1.0	22	1.6	24	1.8	2.1	36	2.6	0.00	13.0	0.47
27-Feb-15		11:43	10:22	Partial	6	0.4	9	0.7	22	1.6	24	1.8	2.2	40	2.9	0.00	12.0	0.43
Average vacuum extraction wells:					***9.0***	***0.7***	***11.5***	***0.8***	***22.0***	***1.6***								
Average vacuum inlet:														***38.0***	***2.8***			
Percent operating time for SVE system:				***100%***														

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Flow Rate		VMW-2 Flow Rate		VMW-3C Flow Rate		INLET Flow Rate		Bleeder Valve Flow Rate		SVE Meter Flow Rate	SVE-IN Flow Rate		STACK Flow Rate	
					(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ACFM)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)
13-Jan-15	10:30		13:05	Partial	633	13.80	880.5	19.19	1500.6	32.71	1241.3	27.06	5812	126.70	108	5569.2	121.41	5441	118.61
27-Feb-15		11:43	10:22	Partial	566	12.34	683	14.89	1603	34.95	633	13.80	4960	108.13	100	5896	128.53	3867	84.30
Average airflow rate extraction wells in ft^3/min:						***13.07***		***17.04***		***33.83***									
Total airflow rate extraction wells in ft^3/min:						***847,720***		***1,105,214***		***2,194,214***									

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Temperature		VMW-2 Temperature		VMW-3C Temperature		INLET Temperature		SVE-IN Temperature		Blower Temperature		STACK Temperature		OVA
					(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(ppm)
13-Jan-15	10:30		13:05	Partial	85.5	29.7	85.9	30.0	81.9	27.7	82.0	27.8	148.9	65.0	128.0	53.3	99.6	37.6	2.0
27-Feb-15		11:43	10:22	Partial	86.7	30.4	90.7	32.6	88.6	31.4	86.3	30.2	151.0	66.1	130.0	54.4	122.1	50.1	8.7

Notes:

in Hg	Inches of mercury.
in H_2O	Inches of water.
ft/min	Feet per minute.
ft^3/min	Cubic feet per minute.
ACFM	Actual cubic feet per minute.
°F	Degrees Farenheit.
°C	Degrees Celsius.
OVA	Organic vapor analyzer.
ppm	Parts per million.

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TABLE 5

SVE OPERATION DATA
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 3 Operational Period: April 1 to 30, 2015 (699 hours/29 days)[1/]

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Vacuum Reading		VMW-2 Vacuum Reading		VMW-3C Vacuum Reading		INLET Vacuum Reading		Vacuum Breaker	Intake Blower		SVE-1 Vacuum Reading	SVE-IN Pressure Reading	
					($in H_2O$)	(in Hg)	($in H_2O$)	(in Hg)	($in H_2O$)	(in Hg)	($in H_2O$)	(in Hg)	(in Hg)	($in H_2O$)	(in Hg)	($in H_2O$)	($in H_2O$)	(psi)
1-Apr-15	9:05		11:00	Partial	13	1.0	13	1.0	22	1.6	24	1.8	2.1	38	2.8	0.00	13.0	0.47
30-Apr-15		12:20	10:50	Open[2/]	12	0.9	22	1.6	22	1.6	10	0.7	0.7	24	1.8	0.00	17.0	0.61
Average vacuum extraction wells:					***12.5***	***0.9***	***17.5***	***1.3***	***22.0***	***1.6***								
Average vacuum inlet:														***31.0***	***2.3***			
Percent operating time for SVE system:				**100%**														

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Flow Rate		VMW-2 Flow Rate		VMW-3C Flow Rate		INLET Flow Rate		Bleeder Valve Flow Rate		SVE Meter Flow Rate	SVE-IN Flow Rate		STACK Flow Rate	
					(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)	(ACFM)	(ft/min)	(ft^3/min)	(ft/min)	(ft^3/min)
1-Apr-15	11:22		14:10	Partial	624	13.60	630	13.73	1164	25.38	2517	54.87	1202	26.20	108	4933	107.54	4237	92.37
30-Apr-15		12:20	10:50	Open[2/]	339	7.39	363	7.91	402	8.76	264	5.76	4638	101.11	117	4762	103.81	2614	56.99
Average airflow rate extraction wells in ft^3/min:						***10.50***		***10.82***		***17.07***									
Total airflow rate extraction wells in ft^3/min:						***440,370***		***453,791***		***715,916***									

DATE (day-mo-yr)	SVE ON	SVE OFF	Reading Time	Bleeder Valve Open	VMW-1 Temperature		VMW-2 Temperature		VMW-3C Temperature		INLET Temperature		SVE-IN Temperature		Blower Temperature		STACK Temperature		OVA
					(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(°F)	(°C)	(ppm)
1-Apr-15	9:05		11:00	Partial	93.8	34.3	92.8	33.8	89.7	32.1	98.0	36.7	153.7	67.6	132.0	55.6	114.2	45.7	0.0
30-Apr-15		12:20	10:50	Open[2/]	102.8	39.3	109.2	42.9	106.0	41.1	97.8	36.6	150.0	65.6	136.0	58.0	122.0	50.0	0.0

Notes:

1/ Site visit on March 12, 2015 for carbon filter replacement.
Site visit on March 12 and 23, 2015 for blower maintenance.
Site visit on April 2, 2015 for used carbon filter pickup by Veolia for disposal.

2/ Bleeder valve open due to blower temperature at 142 ° F prior to monitoring activities.

in Hg Inches of mercury.
$in H_2O$ Inches of water.
ft/min Feet per minute.
ft^3/min Cubic feet per minute.
ACFM Actual cubic feet per minute.
°F Degrees Farenheit.
°C Degrees Celsius.
OVA Organic vapor analyzer.
ppm Parts per million.

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TABLE 6

CYCLE 1: OCTOBER-NOVEMBER 2014 REMOVAL RATE FOR EXTRACTION WELLS VMW-1, VMW-2 AND VMW-3C
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 1: October 9 to November 18, 2014 (771 hours/32 days)

VMW-1 Sample No.	DATE (day-mo-yr)	VMW-1 Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
7	9-Oct-14	17.31	0.000000000	0.000000000	***0.000000000***	0.001379596	0.000089458	***0.002146991***	0.066640027	0.004321180	***0.103708309***	0.000000000	0.000000000	***0.000000000***
8	18-Nov-14	15.43	0.000000000	0.000000000	***0.000000000***	0.001618056	0.000093525	***0.002244609***	0.028285970	0.001634960	***0.039239035***	0.000000000	0.000000000	***0.000000000***
Total removal rate per compound in lbs/day:					**0.000000000**			**0.004391600**			**0.142947344**			**0.000000000**
Estimated removed per compound in lbs:					**0.000000**			**0.141080**			**4.592183**			**0.000000**

Total VOCs removed VMW-1 (lbs): **4.7333**

Average air flow rate: **16.37 ft^3/min**

Total air flow rate: **757,276 ft^3/min (32 days)**

VMW-2 Sample No.	DATE (day-mo-yr)	VMW-2 Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
7	9-Oct-14	15.90	0.000000000	0.000000000	***0.000000000***	0.004541490	0.000270499	***0.006491974***	0.143488740	0.008546436	***0.205114452***	0.000000000	0.000000000	***0.000000000***
8	18-Nov-14	26.68	0.000000000	0.000000000	***0.000000000***	0.003632207	0.000363017	***0.008712398***	0.064610225	0.006457392	***0.154977410***	0.000000000	0.000000000	***0.000000000***
Total removal rate per compound in lbs/day:					**0.000000000**			**0.015204372**			**0.360091862**			**0.000000000**
Estimated removed per compound in lbs:					**0.000000**			**0.488440**			**11.567951**			**0.000000**

Total VOCs removed VMW-2 (lbs): **12.0564**

Average air flow rate: **21.29 ft^3/min**

Total air flow rate: **984,875 ft^3/min (32 days)**

VMW-3C Sample No.	DATE (day-mo-yr)	VMW-3C Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
7	9-Oct-14	19.73	0.000000000	0.000000000	***0.000000000***	0.005589879	0.000413142	***0.009915412***	0.173547211	0.012826696	***0.307840702***	0.000000000	0.000000000	***0.000000000***
8	18-Nov-14	30.98	0.000000000	0.000000000	***0.000000000***	0.003606954	0.000418593	***0.010046236***	0.083630590	0.009705472	***0.232931321***	0.000000000	0.000000000	***0.000000000***
Total removal rate per compound in lbs/day:					**0.000000000**			**0.019961648**			**0.540772023**			**0.000000000**
Estimated removed per compound in lbs:					**0.000000**			**0.641268**			**17.372301**			**0.000000**

Total VOCs removed VMW-3C (lbs): **18.0136**

Average air flow rate: **25.35 ft^3/min**

Total air flow rate: **1,172,691 ft^3/min (32 days)**

Total VOCs Removed 3 wells (lbs): **34.8032**

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Notes:

ft^3/min	Cubic feet per minute.	lbs/hr	Pounds per hour.	Formula Calculation:	
mg/L	Milligrams per liter.	lbs/day	Pounds per day.	R = Q x C/266.95 where:	R = removal rate in lbs/hr or lbs/day
					Q = air flow rate at extraction well in ft^3/min
					C = compound concentration in mg/L

TABLE 7

CYCLE 2: JANUARY-FEBRUARY 2015 REMOVAL RATE FOR EXTRACTION WELLS VMW-1, VMW-2 AND VMW-3C
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 2: January 13 to February 27, 2015 (1081 hours/45 days)

VMW-1 Sample No.	DATE (day-mo-yr)	VMW-1 Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
9	13-Jan-15	13.80	0.000000000	0.000000000	***0.000000000***	0.004929423	0.000254827	***0.006115846***	0.356470209	0.018427754	***0.442266092***	0.000000000	0.000000000	***0.000000000***
10	27-Feb-15	12.34	0.000000000	0.000000000	***0.000000000***	0.000575211	0.000026590	***0.000638151***	0.008520728	0.000393878	***0.009453076***	0.000000000	0.000000000	***0.000000000***
Total removal rate per compound in lbs/day:					**0.000000000**			**0.006753997**			**0.451719168**			**0.000000000**
Estimated removed per compound in lbs:					**0.000000**			**0.304211**			**20.346184**			**0.000000**
Total VOCs removed (lbs) VMW-1:		**20.6504**												
Average air flow rate:	**13.07 ft^3/min**													
Total air flow rate:	**847,720 ft^3/min (45 days)**													

VMW-2 Sample No.	DATE (day-mo-yr)	VMW-2 Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
9	13-Jan-15	19.19	0.000000000	0.000000000	***0.000000000***	0.007084430	0.000509272	***0.012222532***	0.278216616	0.019999913	***0.479997919***	0.000000000	0.000000000	***0.000000000***
10	27-Feb-15	14.89	0.000000000	0.000000000	***0.000000000***	0.000085660	0.000004778	***0.000114672***	0.001397638	0.000077958	***0.001870987***	0.000000000	0.000000000	***0.000000000***
Total removal rate per compound in lbs/day:					**0.000000000**			**0.012337204**			**0.481868906**			**0.000000000**
Estimated removed per compound in lbs:					**0.000000**			**0.555688**			**21.704179**			**0.000000**
Total VOCs removed (lbs) VMW-2:		**22.2599**												
Average air flow rate:	**17.04 ft^3/min**													
Total air flow rate:	**1,105,214 ft^3/min (45 days)**													

VMW-3C Sample No.	DATE (day-mo-yr)	VMW-3C Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
9	13-Jan-15	32.71	0.000000000	0.000000000	***0.000000000***	0.008560537	0.001048942	***0.025174617***	0.280344644	0.034351277	***0.824430641***	0.000000000	0.000000000	***0.000000000***
10	27-Feb-15	34.95	0.000000000	0.000000000	***0.000000000***	0.001232640	0.000161381	***0.003873154***	0.029539951	0.003867471	***0.092819295***	0.000000000	0.000000000	***0.000000000***
Total removal rate per compound in lbs/day:					**0.000000000**			**0.029047771**			**0.917249936**			**0.000000000**
Estimated removed per compound in lbs:					**0.000000**			**1.308360**			**41.314466**			**0.000000**
Total VOCs removed (lbs):		**42.6228**												
Average air flow rate:	**33.83 ft^3/min**													
Total air flow rate:	**2,194,214 ft^3/min (45 days)**													

Total VOCs Removed 3 wells (lbs): **85.5331**

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Notes:

ft^3/min	Cubic feet per minute.	lbs/hr	Pounds per hour.	Formula Calculation:	
mg/L	Milligrams per liter.	lbs/day	Pounds per day.	R = Q x C/266.95 where:	R = removal rate in lbs/hr or lbs/day
					Q = air flow rate at extraction well in ft^3/min
					C = compound concentration in mg/L

TABLE 8

CYCLE 3: APRIL 2015 REMOVAL RATE FOR EXTRACTION WELLS VMW-1, VMW-2 AND VMW-3C
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 3: April 1 to 30, 2015 (699 hours/29 days)

VMW-1 Sample No.	DATE (day-mo-yr)	VMW-1 Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
11	1-Apr-15	13.60	0.000000000	0.000000000	***0.000000000***	0.004429701	0.000225675	***0.005416200***	0.186540031	0.009503444	***0.228082660***	0.000000000	0.000000000	***0.000000000***
12	30-Apr-15	7.39	0.000000000	0.000000000	***0.000000000***	0.002849972	0.000078896	***0.001893505***	0.057225496	0.001584178	***0.038020281***	0.000000000	0.000000000	***0.000000000***
	Total removal rate per compound in lbs/day:				**0.000000000**			**0.007309705**			**0.266102941**			**0.000000000**
	Estimated removed per compound in lbs:				**0.000000**			**0.212895**			**7.750248**			**0.000000**
	Total VOCs removed (lbs) VMW-1:		**7.9631**											
	Average air flow rate:		**10.50 ft^3/min**											
	Total air flow rate:		**440,370 ft^3/min (29 days)**											

VMW-2 Sample No.	DATE (day-mo-yr)	VMW-2 Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
11	1-Apr-15	13.73	0.000000000	0.000000000	***0.000000000***	0.004351595	0.000223815	***0.005371559***	0.109908259	0.005652895	***0.135669487***	0.000000000	0.000000000	***0.000000000***
12	30-Apr-15	7.91	0.000000000	0.000000000	***0.000000000***	0.004005261	0.000118680	***0.002848319***	0.076498560	0.002266730	***0.054401524***	0.000000000	0.000000000	***0.000000000***
	Total removal rate per compound in lbs/day:				**0.000000000**			**0.008219878**			**0.190071011**			**0.000000000**
	Estimated removed per compound in lbs:				**0.000000**			**0.239404**			**5.535818**			**0.000000**
	Total VOCs removed (lbs) VMW-2:		**5.7752**											
	Average air flow rate:		**10.82 ft^3/min**											
	Total air flow rate:		**453,791 ft^3/min (29 days)**											

VMW-3C Sample No.	DATE (day-mo-yr)	VMW-3C Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE		
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)
11	1-Apr-15	25.38	0.000000000	0.000000000	***0.000000000***	0.006578063	0.000625403	***0.015009664***	0.202621213	0.019264006	***0.462336142***	0.000000000	0.000000000	***0.000000000***
12	30-Apr-15	8.76	0.000000000	0.000000000	***0.000000000***	0.002361367	0.000077489	***0.001859725***	0.057255403	0.001878844	***0.045092249***	0.000000000	0.000000000	***0.000000000***
	Total removal rate per compound in lbs/day:				**0.000000000**			**0.016869389**			**0.507428391**			**0.000000000**
	Estimated removed per compound in lbs:				**0.000000**			**0.491321**			**14.778852**			**0.000000**
	Total VOCs removed (lbs):		**15.2702**											
	Average air flow rate:		**17.07 ft^3/min**											
	Total air flow rate:		**715,916 ft^3/min (29 days)**											

Total VOCs Removed 3 wells (lbs): **29.0085**

Notes:

ft^3/min	Cubic feet per minute.	lbs/hr	Pounds per hour.	Formula Calculation:	
mg/L	Milligrams per liter.	lbs/day	Pounds per day.	R = Q x C/266.95 where:	R = removal rate in lbs/hr or lbs/day
					Q = air flow rate at extraction well in ft^3/min
					C = compound concentration in mg/L

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TABLE 9

SVE STACK DISCHARGE
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

CYCLE 1: October 9 to November 18, 2014 (771 hours/32 days)

STACK Sample No.	Date (day-mo-yr)	Stack Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE			Total VOC Discharge[1/]	
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)
7	9-Oct-14	112.73	0.000000000	0.000000000	***0.000000000***	0.007930190	0.003348831	***0.080371937***	0.179641967	0.075860794	***1.820659050***	0.000000000	0.000000000	***0.000000000***	**0.079209625**	**1.901030987**
8	18-Nov-14	79.18	0.000000000	0.000000000	***0.000000000***	0.008628869	0.002559408	***0.061425783***	0.194510900	0.057693849	***1.384652381***	0.000000000	0.000000000	***0.000000000***	**0.060253257**	**1.446078164**
Total SVE system discharge per compound in lbs/day:					**0.000000000**			**0.141797720**			**3.205311431**			**0.000000000**		**3.347109151**
Estimated discharge per compound in lbs:					**0.000**			**4.555**			**102.971**			**0.000**		
Total VOCs discharge (lbs):			**107.526**													

CYCLE 2: January 13 to February 27, 2015 (1081 hours/45 days)

STACK Sample No.	Date (day-mo-yr)	Stack Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE			Total VOC Discharge[1/]	
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)
9	13-Jan-15	118.61	0.000000000	0.000000000	***0.000000000***	0.006180643	0.002746155	***0.065907718***	0.137513892	0.061099542	***1.466389008***	0.000000000	0.000000000	***0.000000000***	**0.063845697**	**1.532296726**
10	27-Feb-15	84.30	0.000000000	0.000000000	***0.000000000***	0.009992570	0.003155548	***0.075733160***	0.226120964	0.071406620	***1.713758881***	0.000000000	0.000000000	***0.000000000***	**0.074562168**	**1.789492041**
Total SVE system discharge per compound in lbs/day:					**0.000000000**			**0.141640878**			**3.180147889**			**0.000000000**		**3.321788767**
Estimated discharge per compound in lbs:					**0.000**			**6.380**			**143.239**			**0.000**		
Total VOCs discharge (lbs):			**149.619**													

CYCLE 3: April 1 to 30, 2015 (699 hours/29 days)

STACK Sample No.	Date (day-mo-yr)	Stack Flow Rate (ft^3/min)	METHYLENE CHLORIDE			CHLOROFORM			CARBON TETRACHLORIDE			ACETONE			Total VOC Discharge[1/]	
			(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(mg/L)	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)
11	1-Apr-15	92.37	0.000002531	0.000000876	***0.000021018***	0.000006297	0.000002179	***0.000052296***	0.000102278	0.000035390	***0.000849362***	0.000087932	0.000030426	***0.000730228***	**0.000068871**	**0.001652904**
12	30-Apr-15	56.99	0.000000000	0.000000000	***0.000000000***	0.009185204	0.001960909	***0.047061828***	0.250549998	0.053488834	***1.283732027***	0.000000000	0.000000000	***0.000000000***	**0.055449743**	**1.330793855**
Total SVE system discharge per compound in lbs/day:					**0.000021018**			**0.047114124**			**1.284581389**			**0.000730228**		**1.332446759**
Estimated discharge per compound in lbs:					**0.001**			**1.372**			**37.413**			**0.021**		
Total VOCs discharge (lbs):			**38.808**													

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Notes:

1/ Puerto Rico Environmental Quality Board emission limits: 3 lbs/hr or 15 lbs/day.

ft^3/min Cubic feet per minute.

mg/L Milligrams per liter.

lbs/hr Pounds per hour.

lbs/day Pounds per day.

Formula Calculation:

R = Q x C/266.95 where:

R = removal rate in lbs/hr or lbs/day

Q = air flow rate in ft^3/min

C = compound concentration in mg/L

TABLE 10

SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
1	Feb-00	SVE-1	15.11	522,202	36.1	19	83	24	576	22.2	
2	Mar-00	SVE-1	23.92	930,009.60	35	18	87	27	648	3.6	
3	Apr-00	SVE-1	41.8	953,268	50.3	36	53	16	380	22.38	14-Apr-00
4	May-00	SVE-1	55.96	70,503.30	52	36	3.2	2	21	0.06	
5	Jul-00	SVE-1	4.20	78,372	34	6	42	13	311	19.2	
6	Aug-00	SVE-1	4.20	153,468	34	5	81	25	609	34.2	29-Aug-00
7	Sep-00	SVE-1	8.63	293,593	34	4	80	24	567	14.5	
8	Oct-00	SVE-1	8.19	324,324	34	4	89	27.5	660	4.29	
9	Nov-00	SVE-1	15.68	579,676	34	4	85	25.6	616	0.063	
10	Dec-00	SVE-1	5.16	166,565	34	4	80	22.4	538	0.02	
11	Jan-01	SVE-1	4.55	170,352	34	4	76	26	624	0.02	26-Jan-01
12	Feb-01	SVE-1	4.47	147,510	34	4	82	23	550	0.03	
13	Mar-01	SVE-1	4.83	180,545	34	4	83	26	623	0.09	
14	Apr-01	SVE-1	2.58	93,963	35	5.5	81	25	607	1.75	
15	May-01	SVE-1	2.75	109,890	38	8.2	90	28	666	3.88	
16	Jun-01	SVE-1	3.25	116,805	37.8	8	86	25	599	1.19	14-Jun-01
17	Jul-01	SVE-1	3.02	122,123	38	7.9	88	28	674	0.91	
18	Aug-01	SVE-1	3.00	124,020	37	7.9	94	29	689	0.77	
19	Sep-01	SVE-1	2.60	82,368	32	7.8	79	22	528	0.074	
20	Oct-01	SVE-1	3.06	112,180	26	7.7	77	25.5	611	0.11	11-Oct-01
21	Nov-01	SVE-1	3.14	122,083	26	7.3	90	27	648	0.59	
22	Dec-01	SVE-1	2.98	88,506	26.2	7.8	75	21	495	0.56	
23	Jan-02	SVE-1	2.57	92,520	28.2	9.6	73	25	600	0.91	
24	Feb-02	SVE-1	3.04	101,232	28	9.4	82	23	555	1.68	
25	Mar-02	SVE-1	2.41	79,385	28	9.9	85	23	549	3.84	25-Mar-02
26	Apr-02	SVE-1	2.32	94,934.40	32	17	82	28	682	93	
27	May-02	SVE-1	2.81	109.,421.4	29	16	87	27	649	1.01	9-May-02
28	Jun-02	SVE-1	2.41	80,976	30.7	17	82	23	560	1.24	
29	Jul-02	SVE-1	2.42	30,511	32.8	20	53	9	212	12.9	

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TABLE 10

SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
Add.	Jul-02	VMW-3C	8.72	52,320	32.4	19.7	100	4	100	5.4	
Add.	Jul-02	VMW-2	2.03	4,019	32.8	20.7	64	1.4	33	0.78	24-Jul-02
Add.	Aug-02	VMW-1	3.51	21,060	30.4	18.3	100	4	100	1.92	14-Aug-02
Add.	Aug & Sep-02	INLET	37.24	234,612	32	19	100	4	105	0.05	
30	Sep-02	VMW-2	3.95	36,735	32	18	50	6.5	155	0.7	25-Sep-02
31	Oct-02	VMW-2	3.82	62,572	31	17	73	11	273	0.9	
		VMW-1	4.36	63,046	31	19	100	10	241	0.52	
32	Nov-02	VMW-1	4.98	46,015	31	19	75	6	154	1.2	8-Nov-02
33	Dec-02	VMW-1	5.77	133,287	32	20	67	16	385	1.8	12-Dec-02
34	Jan-03	VMW-1	5.14	137,546	32	20	48	19	446	2.4	24-Jan-03
35	Feb-03	VMW-1	5.45	166,116	34	22	81	21	508	2.03	
36	Mar-03	VMW-1	3.5	123,270	36	24.6	77	24	587	3.25	3-Mar-03
37	Apr-03	VMW-3C	4.79	156,920	34	20.7	70	23	546	3.97	1-Apr-03 23-Apr-03
38	May-03	VMW-3C	3.74	104,795	32	18	67	19.5	467	2.87	15-May-03
39	Jun-03	VMW-3C	10.49	239,172	31	16	52	16	380	1.42	6-Jun-03 30-Jun-03
40	Jul-03	VMW-3C	3.6	88,776	31	17	55	17	411	0.24	15-Jul-03
											28-Jul-03
41	Aug-03	VMW-3C	4.72	167,654	31	17	71	25	592	0.64	21-Aug-03
42	Sep-03	SVE-1	3.05	69,540	34	22	84	16	380	0.04	5-Sep-03
43	Oct-03	SVE-1	1.36	32,477	34	22	47	17	398	0.6	6-Oct-03 23-Oct-03
44	Nov-03	SVE-1	6.21	107,681	33	20	60	12	289	0.03	11-Nov-03
45	Dec-03	SVE-1	15.08	145,673	33	23	47	7	161	0.02	2-Dec-03
46	Jan & Feb-04	SVE-1	2.18	24,852	32	19	67	8	190	0.02	19-Jan-04
		VMW-1	5.04	81,648	34	22	79	11	270	19.73	
47	Mar-04	VMW-1	9.45	199,017	34	22	56	15	351	5.93	1-Mar-04 17-Mar-04
48	Apr-04	VMW-1	5.78	149,818	34	22	64	18	432	1.37	19-Apr-04

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SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
49	May-04	VMW-1	8.09	301,919	33	20	93	26	622	2.85	7-May-04 21-May-04
50	Jun-04	VMW-1	6.76	360,173	29	17	100	37	888	8.73	4-Jun-04 22-Jun-04
51	Jul-04	VMW-1	7.9	297,198	32	20	96	26	627	1.47	12-Jul-04 27-Jul-04
52	Aug-04	VMW-1	4.8	235,008	32	20	100	34	816	5.29	11-Aug-04 27-Aug-04
53	Sep-04	VMW-1	3.54	147,618	27	18	100	29	695	1.22	13-Sep-04 28-Sep-04
54	Oct-04	VMW-1	4.9	196,980	30	18	100	28	670	1.00	13-Oct-04 26-Oct-04
55	Nov-04	VMW-1	7.41	365,461	28	15	100	34	822	6.61	10-Nov-04 23-Nov-04
56	Dec-04	VMW-1	5.72	219,648	30	19	96	27	640	7.11	6-Dec-04 20-Dec-04
57	Jan-05	VMW-1	7.19	342,722	30	19	94	33	794	4.40	4-Jan-05 17-Jan-05
58	Feb-05	VMW-1	6.27	203,524	30	17.5	85	23	541	2.93	10-Feb-05 24-Feb-05
59	Mar-05	VMW-1	7.08	285,667	30	19.5	100	28	672	23.80	10-Mar-05 23-Mar-05
60	Apr-05	VMW-1	8.18	364,932	30	18.5	100	31	744	1.85	8-Apr-05 21-Apr-05
61	May-05	VMW-1	11.17	465,789	30	20	100	29	695	2.09	4-May-05 20-May-05
62	Jun-05	VMW-1	6.65	296,856	31	20	100	31	744	2.85	3-Jun-05 17-Jun-05 27-Jun-05
63	Jul-05	VMW-1	22.07	921,643	31	20	100	29	696	11.17	11-Jul-05 26-Jul-05

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PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
64	Aug-05	VMW-1	18.94	792,071	31	19	100	29	697	8.50	10-Aug-05 24-Aug-05
65	Sept & Oct 05 (Extraction Wells Shutdown)	VMW-1	4.63	833	31.5	19	100		3	0.078	
		VMW-2	4.91	589	32	15.5	100		2	0.001	
		VMW-3C	3.27	529.7	31.5	15.5	100		2.7	0.059	
		SVE-1	0.68	123.3	40	27.3	100		3	0.0004	
66	Oct-05	VMW-1	1.27	11,201	29	15.7	100	6	147	0.155	31-Oct-05
		VMW-2	9.63	84,937		11.7				0.081	
		VMW-3C	2.91	25,666		13				0.085	
67	Nov-05	VMW-1	3.82	145,084	29.6	14.6	90	26	633	1.484	16-Nov-05
		VMW-2	3.27	124,195		10.6				0.116	29-Nov-05
		VMW-3C	2.40	91,152		11.8				0.407	
68	Dec-05	VMW-1	5.18	216,317	30	13.8	100	29	696	0.422	7-Dec-05
		VMW-2	14.17	591,739		10				0.063	21-Dec-05
		VMW-3C	8.86	369,994		10.8				0.492	
69	Jan-06	VMW-1	8.99	406,168	30	13	91	31	753	2.332	11-Jan-06
		VMW-2	15.4	695,772		10.3				0.224	25-Jan-06
		VMW-3C	9.81	443,216		10				1.49	
70	Feb-06	VMW-1	7.22	290,244	30	13.8	100	28	670	1.598	8-Feb-06
		VMW-2	3.27	131,454		10.3				0.076	20-Feb-06
		VMW-3C	5.18	208,236		10				0.469	
71	Mar-06	VMW-1	1.91	54,779	30.3	15	100	20	478	0.472	8-Mar-06
		VMW-2	4.09	117,301		13.3				0.097	17-Mar-06
		VMW-3C	2.73	78,296		12				0.347	28-Mar-06
72	Apr-06	VMW-1	2.59	111,733	30.3	14.5	100	30	719	0.917	5-Apr-06
		VMW-2	3.00	129,420		13.5				0.061	18-Apr-06
		VMW-3C	3.55	153,147		11.5				0.664	27-Apr-06
73	May-06	VMW-1	7.57	359,272	30	15.6	100	33	791	2.605	10-May-06
		VMW-2	16.95	804,447		14.0				0.219	22-May-06
		VMW-3C	11.70	555,282		11.6				1.927	

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PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
74	Jun-06	VMW-1	9.20	372,600	30	15.8	100	28	675	1.95	5-Jun-06
		VMW-2	7.62	308,610		13.8				0.062	19-Jun-06
		VMW-3C	8.96	362,880		12.0				0.858	
75	Jul-06	VMW-1	12.70	563,118	30	15.8	100	31	739	2.326	30-Jun-06
		VMW-2	22.42	994,103		14.0				0.034	11-Jul-06
		VMW-3C	16.39	726,733		12.5				1.000	21-Jul-06
76	Aug-06	VMW-1	9.07	446,244	30	15.8	100	34	820	5.512	2-Aug-06
		VMW-2	11.96	588,432		14.6				0.671	15-Aug-06
		VMW-3C	9.91	487,572		12.6				2.741	25-Aug-06
77	Sep-06	VMW-1	9.45	339,066	30.3	15.5	93	25	598	1.165	7-Sep-06
		VMW-2	10.09	362,029		14.0				0.058	22-Sep-06
		VMW-3C	9.52	341,578		11.5				0.480	
78	Oct-06	VMW-1	9.87	384,338	30.8	16	100	27	649	2.018	3-Oct-06
		VMW-2	9.58	373,045		14.0				0.065	16-Oct-06
		VMW-3C	8.96	348,902		12				0.489	
79	Nov-06	VMW-1	9.80	479,808	30.4	16	100	34	816	5.970	1-Nov-06
		VMW-2	13.85	678,096		14.2				2.237	13-Nov-06
		VMW-3C	10.30	504,288		11.8				7.244	27-Nov-06
80	Dec-06	VMW-1	9.12	369,907	31.5	15	96	28	676	1.531	12-Dec-06
		VMW-2	9.20	373,152		14.0				0.815	26-Dec-06
		VMW-3C	8.04	326,102		12				0.568	
81	Jan-07	VMW-1	8.26	404,410	31.8	15	100	34	816	3.731	8-Jan-07
		VMW-2	7.98	390,701		14.0				2.001	22-Jan-07
		VMW-3C	8.02	392,659		12				1.272	
82	Feb-07	VMW-1	8.21	331,027	32	15	100	28	672	2.344	5-Feb-07
		VMW-2	11.15	449,568		13.5				2.645	19-Feb-07
		VMW-3C	9.33	376,186		12				0.962	
83	Mar-07	VMW-1	11.13	431,399	34	18.4	96	27	646	1.856	5-Mar-07
		VMW-2	10.97	425,197		16.8				0.725	19-Mar-07
		VMW-3C	12.08	468,221		15.4				1.014	

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ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
84	Apr-07	VMW-1	12.22	493,444	34	18.5	100	28	673	0.003	2-Apr-07
		VMW-2	9.19	371,092		17.0				0.001	16-Apr-07
		VMW-3C	10.25	413,895		16				0.005	
85	May-07	VMW-1	13.45	522,129	34	19.5	93	27	647	0.360	30-Apr-07
		VMW-2	9.22	357,920		17.5				0.103	14-May-07
		VMW-3C	10.95	425,079		16.3				0.379	
86	Jun-07	VMW-1	10.32	505,267	34	20	100	34	816	1.065	1-Jun-07
		VMW-2	10.17	497,923		18.4				0.331	11-Jun-07
		VMW-3C	11.83	579,197		17.2				0.413	25-Jun-07
87	Jul-07	VMW-1	8.28	405,886	34	20	97	34	817	1.959	13-Jul-07
		VMW-2	7.48	366,670		18.8				1.050	24-Jul-07
		VMW-3C	7.56	370,591		17.8				1.030	
88	Aug-07	VMW-1	8.68	375,497	35.3	20	100	30	721	0.5904	7-Aug-07
		VMW-2	10.09	436,493		19.5				0.0003	20-Aug-07
		VMW-3C	9.95	430,437		17.5				0.2948	
89	Sep-07	VMW-1	10.34	385,889	32.8	19	100	26	622	0.3133	5-Sep-07
		VMW-2	10.40	388,128		18.0				0.0704	17-Sep-07
		VMW-3C	12.39	462,395		17				0.2904	
90	Oct-07	VMW-1	8.82	444,528	26.4	17	100	35	840	0.9898	1-Oct-07
		VMW-2	9.73	490,392		15.8				0.6067	16-Oct-07
		VMW-3C	10.22	515,088		14				0.4012	29-Oct-07
91	Nov-07	VMW-1	7.15	71,643	24	10	100	7	167	1/	2/
		VMW-2	6.74	67,535		10.0				0.0600	
		VMW-3C	7.19	72,044		8				0.0400	
92	Dec-07	VMW-1	7.77	67,133	34	18.5	100	6	144	3.6246	27-Dec-07
		VMW-2	8.35	72,144		16.0				1.3622	
		VMW-3C	7.87	67,997		14				0.8652	
93	Jan-08	VMW-1	9.61	443,405	35.4	18.2	100	32	769	1.5562	3-Jan-08
		VMW-2	12.37	570,752		17.6				1.5251	14-Jan-08
		VMW-3C	12.38	571,213		15.4				0.9589	28-Jan-08

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SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
94	Feb-08	VMW-1	8.56	356,952	35.5	17	100	29	695	0.0006	11-Feb-08
		VMW-2	12.34	514,578		17.8				0.0010	26-Feb-08
		VMW-3C	8.63	359,871		16				0.0006	
95	Mar-08	VMW-1	11.03	428,185	35.8	14	99.8	27	647	0.0005	10-Mar-08
		VMW-2	10.53	408,774		16.8				0.0005	24-Mar-08
		VMW-3C	10.02	388,976		16				0.0004	
96	Apr-08	VMW-1	9.57	466,825	35.6	15.4	97	34	813	1.0248	7-Apr-08
		VMW-2	8.60	419,508		18.0				0.1213	22-Apr-08
		VMW-3C	8.53	416,093		16.2				0.5483	
97	May-08	VMW-1	11.20	516,768	34.3	15.5	100	32	769	0.8620	5-May-08
		VMW-2	10.52	485,393		18.8				0.2067	19-May-08
		VMW-3C	9.93	458,170		17.5				0.3581	
98	Jun-08	VMW-1	13.19	421,025	34	16	85	22	532	0.2231	6-Jun-08
		VMW-2	15.76	503,059		19				0.0779	19-Jun-08
		VMW-3C	14.14	451,349		17				0.2923	
99	Jul-08	VMW-1	9.41	460,149	34	16	100	34	815	0.5544	1-Jul-08
		VMW-2	8.90	435,210		19				0.1523	15-Jul-08
		VMW-3C	9.01	440,589		17.3				0.6563	29-Jul-08
100	Aug-08	VMW-1	12.71	441,545	34	16	89	24	579	0.000131	11-Aug-08
		VMW-2	12.38	430,081		19				0.000131	25-Aug-08
		VMW-3C	15.76	547,502		17				0.000250	
101	Sep-08	VMW-1	9.08	363,382	34	16	100	28	667	0.000144	9-Sep-08
		VMW-2	9.99	399,800		19.5				0.000156	22-Sep-08
		VMW-3C	9.14	365,783		16.8				0.000066	
102	Oct-08	VMW-1	9.69	500,585	34.4	16	100	36	861	2.365452	7-Oct-08
		VMW-2	14.44	745,970		19.4				0.605816	23-Oct-08
		VMW-3C	11.59	598,739		17.2				1.549567	
103	Nov-08	VMW-1	8.95	318,441	34.3	15	89	25	593	2.454853	3-Nov-08
		VMW-2	11.79	419,488		18.5				0.932874	19-Nov-08
		VMW-3C	11.30	402,054		16.5				1.899250	3/

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ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
104	Mar-09	VMW-1	13.47	253,775	34.7	12.7	100	13	314	5.393837	10-Mar-09
		VMW-2	13.33	251,137		18.0				3.024644	
		VMW-3C	13.63	256,789		14.7				7.767911	
105	Apr-09	VMW-1	10.64	395,170	35.5	15.5	89.6	26	619	1.854802	7-Apr-09
		VMW-2	10.86	403,340		18.8				0.244926	20-Apr-09
		VMW-3C	13.33	495,076		17				0.858882	
106	May-09	VMW-1	16.18	908,669	34.8	15.8	100	39	936	7.571623	8-May-09
		VMW-2	15.39	864,302		18.2				0.561549	21-May-09
		VMW-3C	18.88	1,060,301		16.4				3.726816	
107	Jun-09	VMW-1	14.55	669,591	34.4	16.8	100	32	767	5.980598	8-Jun-09
		VMW-2	12.57	578,471		19.6				1.009781	22-Jun-09
		VMW-3C	13.96	642,439		18				2.875422	
108	Jul-09	VMW-1	15.71	608,920	35.3	16.5	100	27	646	4.276	7-Jul-09
		VMW-2	14.37	556,981		19.5				0.762	20-Jul-09
		VMW-3C	14.62	566,671		18.3				2.344	
109	Aug-09	VMW-1	10.63	424,137	36	16	99	28	665	2.290572	3-Aug-09
		VMW-2	12.18	485,982		20.0				0.707209	18-Aug-09
		VMW-3C	13.85	552,615		17.8				1.466105	
110	Sep-09	VMW-1	7.62	280,264	35.5	16.0	91	25.5	613	5.478173	1-Sep-09
		VMW-2	9.28	341,318		19.0				0.411593	17-Sep-09
		VMW-3C	9.69	356,398		17.8				1.007658	
111	Oct-09	VMW-1	10.00	503,400	36	16.0	100	35	839	3.261948	1-Oct-09
		VMW-2	12.43	625,726		19.0				1.242479	13-Oct-09
		VMW-3C	11.47	577,400		17.6				2.198758	
112	Nov-09	VMW-1	8.97	452,088	36	14.3	100	35	840	2.853304	2-Nov-09
		VMW-2	11.96	602,784		18.3				0.802025	16-Nov-09
		VMW-3C	13.52	681,408		16.5				2.260381	30-Nov-09
113	Dec-09	VMW-1	9.97	400,794	36.3	14.0	100	28	670	6.407085	14-Dec-09
		VMW-2	10.86	436,572		18.0				6.689507	28-Dec-09
		VMW-3C	11.50	462,300		15.8				5.435659	

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ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
114	Jan-10	VMW-1	9.46	380,860	36.3	14.0	100	28	671	2.065491	11-Jan-10
		VMW-2	9.44	380,054		17.3				0.923901	
		VMW-3C	11.53	464,198		14.5				1.111874	
115	Feb-10	VMW-1	9.73	392,314	36.3	15.0	100	28	672	1.886799	8-Feb-10
		VMW-2	15.00	604,800		14.0				1.871269	
		VMW-3C	11.65	469,728		14.8				0.987515	
PULSING/CYCLING PROCEDURES											
1	Apr-10	VMW-1	16.33	752,486	36	17.0	100	32	768	2.6477	4/
		VMW-2	15.01	691,661		13.0				0.5367	
		VMW-3C	13.01	599,501		17.0				2.8294	
	Jun-10	VMW-1	9.32	387,526	36.5	17.0	100	29	693	15.3813	
		VMW-2	10.44	434,095		13.5				11.0887	
		VMW-3C	9.29	386,278		17.0				9.1009	
	Aug-10	VMW-1	15.00	583,200	37.5	18.5	100	27	648	36.4456	
		VMW-2	15.54	604,195		15.0				23.1364	
		VMW-3C	16.30	633,744		19.0				14.9451	
2	Oct-10	VMW-1	12.20	458,232	37.5	18.0	100	26	626	27.9329	6-Oct-10
		VMW-2	14.12	530,347		14.0				18.4070	
		VMW-3C	20.10	754,956		18.0				13.5022	
	Dec-10	VMW-1	6.41	248,836	38	18.5	100	27	647	15.7973	
		VMW-2	7.98	309,784		14.0				5.5114	
		VMW-3C	7.14	277,175		17.5				3.0974	
	Feb-11	VMW-1	5.96	233,155	38	16.0	100	27	652	19.9244	
		VMW-2	5.76	225,331		14.0				12.5025	
		VMW-3C	6.19	242,153		18.0				7.4042	
3	Apr-11	VMW-1	18.39	610,180	37	16.0	100	23	553	33.0169	5/
		VMW-2	14.50	481,110		14.0				9.8245	
		VMW-3C	17.94	595,249		16.0				8.0317	
	Jun-11	VMW-1	15.39	578,048	37	18.0	100	26	626	30.2072	
		VMW-2	12.88	483,773		13.0				7.2812	
		VMW-3C	12.09	454,100		17.5				9.8346	

TABLE 10

SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
3	Aug-11	VMW-1	16.96	724,531	39	19.0	100	29	712	27.3855	5/
		VMW-2	17.40	743,328		16.0				16.4732	
		VMW-3C	19.01	812,107		20.0				7.2905	
	Nov-11	VMW-1	8.06	383,978	37	19.0	100	33	794	15.1555	
		VMW-2	7.94	378,262		16.0				7.8081	
		VMW-3C	6.19	294,892		19.0				4.8375	
4	Jan-Feb 2012	VMW-1	7.78	414,985	31.5	14.0	100	37	889	22.8349	23-Jan-12 6/
		VMW-2	7.51	400,583		10.0				4.7724	
		VMW-3C	7.06	376,580		14.0				6.6713	
	Apr-12	VMW-1	9.60	374,400	33.5	16.0	100	27	650	11.3448	7/
		VMW-2	9.32	363,480		10.0				2.4469	
		VMW-3C	9.54	372,060		16.0				5.0372	
	Jun-12	VMW-1	8.46	306,590	34.5	18.0	100	25	604	10.0404	
		VMW-2	6.60	239,184		13.5				3.2279	
		VMW-3C	9.46	342,830		19.0				4.1748	
5	Aug-12	VMW-1	7.78	414,985	36	16.0	100	30	721	22.8349	2-Oct-12
		VMW-2	7.51	400,583		13.5				4.7724	
		VMW-3C	7.06	376,580		19.0				6.6713	
	Oct-12	VMW-1	9.60	374,400	33.5	16.0	100	27	650	11.3448	
		VMW-2	9.32	363,480		10.0				2.4469	
		VMW-3C	9.54	372,060		16.0				5.0372	
	Dec-12	VMW-1	8.46	306,590	34.5	18.0	100	25	604	10.0404	
		VMW-2	6.60	239,184		13.5				3.2279	
		VMW-3C	9.46	342,830		19.0				4.1748	
6	Feb-13	VMW-1	9.37	323,827	38	14.0	100	24	576	8.0138	3-Apr-13
		VMW-2	9.28	320,717		10.0				4.9841	
		VMW-3C	8.18	282,701		16.0				6.9808	
	Apr-13	VMW-1	10.48	409,349	36	14.0	100	27	651	10.4615	
		VMW-2	21.04	821,822		10.0				8.9647	
		VMW-3C	15.72	614,023		16.0				10.3771	

TABLE 10

SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Report No.	Period (mo/yr)	Extraction Well	Average Airflow Rate (ft^3/min)	Total Airflow Rate (ft^3/min)/days	Average Vacuum Inlet Vacuum Pump (in H_2O)	Average Vacuum Extraction Well (in H_2O)	Operational Time Percentage (%)	Operational Time (days)	Operational Time (hours)	VOC Mass Removal (lbs)	Carbon Canister Replacement Date
6	Jun-13	VMW-1	23.33	834,281	35	15.5	100	25	596	22.7551	
		VMW-2	14.13	505,289		13.5				10.1854	
		VMW-3C	17.91	640,462		16.5				12.8600	
7	Aug-13	VMW-1	16.80	750,960	35	15.0	100	31	745	18.6665	6-Aug-13
		VMW-2	23.05	1,030,335		14.0				18.0805	
		VMW-3C	23.20	1,037,040		18.0				17.8033	
	Oct-13	SVE-1	22.28	896,993	31	22.0	100	28	671	2.6588	8/
	Dec-13/Jan-14	SVE-1	13.11	604,895	30	15.0	100	32	769	1.0149	
8	Feb-14/Mar-14	VMW-1	5.04	326,894	33	13.5	100	45	1081	7.7315	
		VMW-2	6.98	452,723		11.5				9.5835	
		VMW-3C	7.87	510,448		17.5				11.0107	
	May-14	VMW-1	24.43	1,018,731	37	19.5	100	29	695	10.4615	9/
		VMW-2	23.20	967,440		19.5				8.9647	
		VMW-3C	27.52	1,147,584		19.5				10.3771	
	Aug-14	VMW-1	13.40	580,488	38	5.0	100	30	722	22.7551	
		VMW-2	16.18	700,918		12.0				10.1854	5-Aug-14
		VMW-3C	18.79	813,983		21.0				12.8600	
9	Oct-14/Nov-14	VMW-1	16.37	757,276	36.7	5.0	100	32	771	4.7333	
		VMW-2	21.29	984,875		12.0				12.0564	
		VMW-3C	25.35	1,172,691		20.7				18.0136	
	Jan-15/Feb-15	VMW-1	13.07	847,720	38	9.0	100	45	1081	20.6504	
		VMW-2	17.04	1,105,214		11.5				22.2599	12-Mar-15
		VMW-3C	33.83	2,194,214		22.0				42.6228	
	Apr-15	VMW-1	10.50	440,370	31	12.5	100	29	699	7.9631	
		VMW-2	10.82	453,791		17.5				5.7752	
		VMW-3C	17.07	715,916		22.0				15.2702	

ERTEC

TABLE 10

SUMMARY OF SOIL VACUUM EXTRACTION SYSTEM OPERATION - FEBRUARY 2000 TO APRIL 2015
SVE PULSING OPERATIONS - SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

Notes:

1/ The laboratory reported that sample VMW-1-108 collected from extraction well VMW-1 was received broken and no analysis was performed.

2/ Moisture separator found broken during November 5, 2007 sampling activities. SVE system turn off until moisture separator replacement on December 21, 2007.

3/ On December 1, 2008 the SVE vacuum blower was reported by Pfizer personnel to be out of operation. A new blower unit was installed on February 28, 2009. The SVE system operation was resumed on March 10, 2009 after SVE systems check (blower motor rotation, electrical, pipelines, joints, vacuum gauges, flow meter, moisture separator and stack), and stabilization parameters and vapor samples from extraction wells and stack.

4/ SVE pulsing/cycling program began on February 22, 2010 after EPA approval.

5/ Clean up of vacuum extraction wells VMW-2 and VMW-3C performed on August 1, 2 and 9, 2011. Air filter unit and nipple replaced on August 12, 2011. Activated carbon unit removed from SVE system on August 10, 2011 based on historical data below 3 lbs/hr or 15 lbs/day. SVE found off during September 9, 2011 site visit for monitoring and sampling activities due to electrical power failure on September 8, 2011. SVE system did not start on this date. After system verification during September 2011, it was determined that electrical system and blower motor unit was damaged. Resume SVE operation on October 27, 2011 after repairs of SVE electrical system and re-installation of repaired blower unit.

6/ Start up SVE operation on January 23, 2012 after carbon unit installation.

7/ SVE system check on May 23, 2012 after electrical utilities relocation.

8/ Extraction procedures from well SVE-1 starting on October 7, 2013 until January 2014.

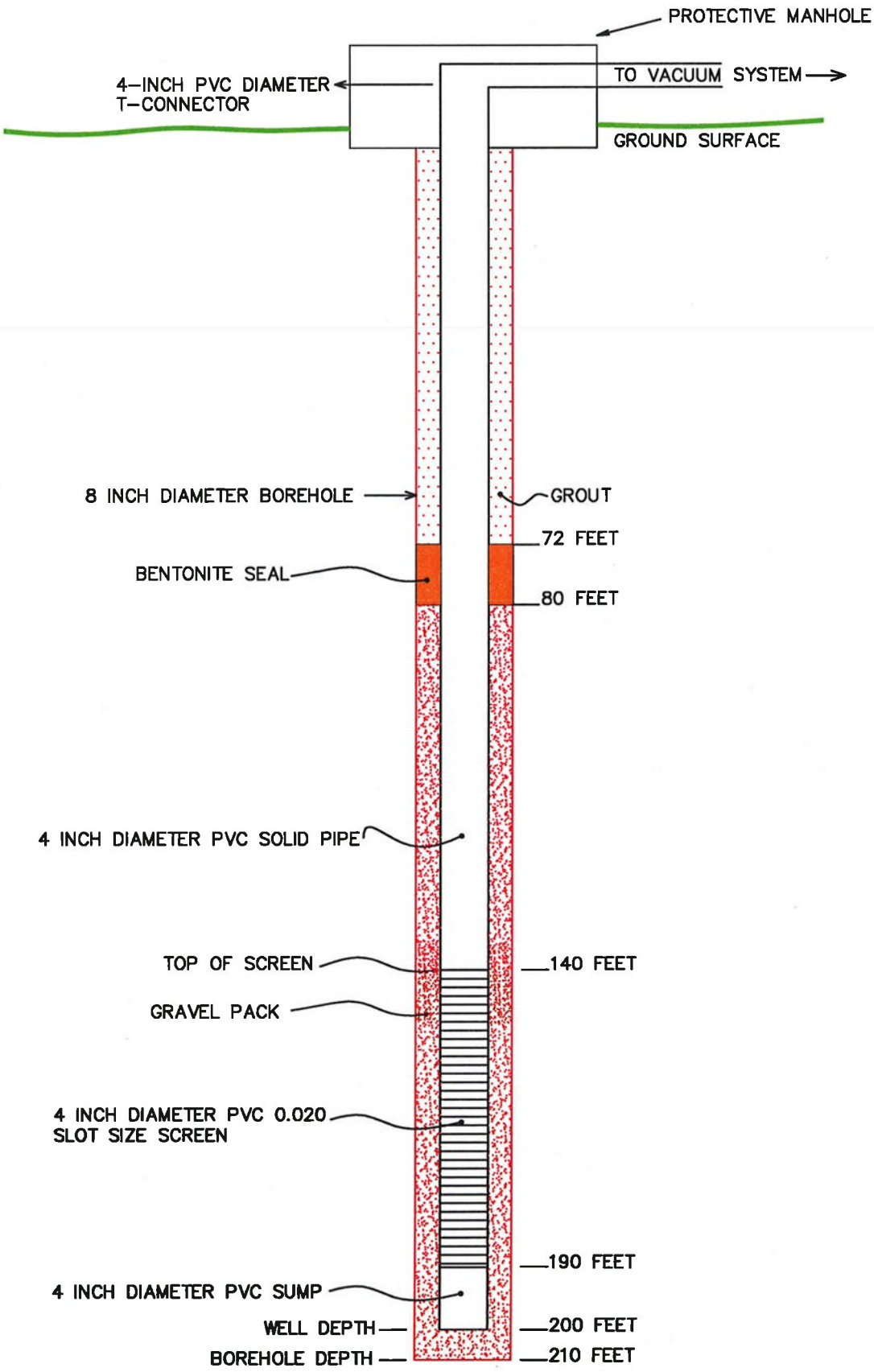
9/ Pulsing procedures on 2-months off basis after May 2014.

APPENDIX 1

EXTRACTION AND VACUUM MONITORING WELLS CONSTRUCTION DETAIL

SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E145288

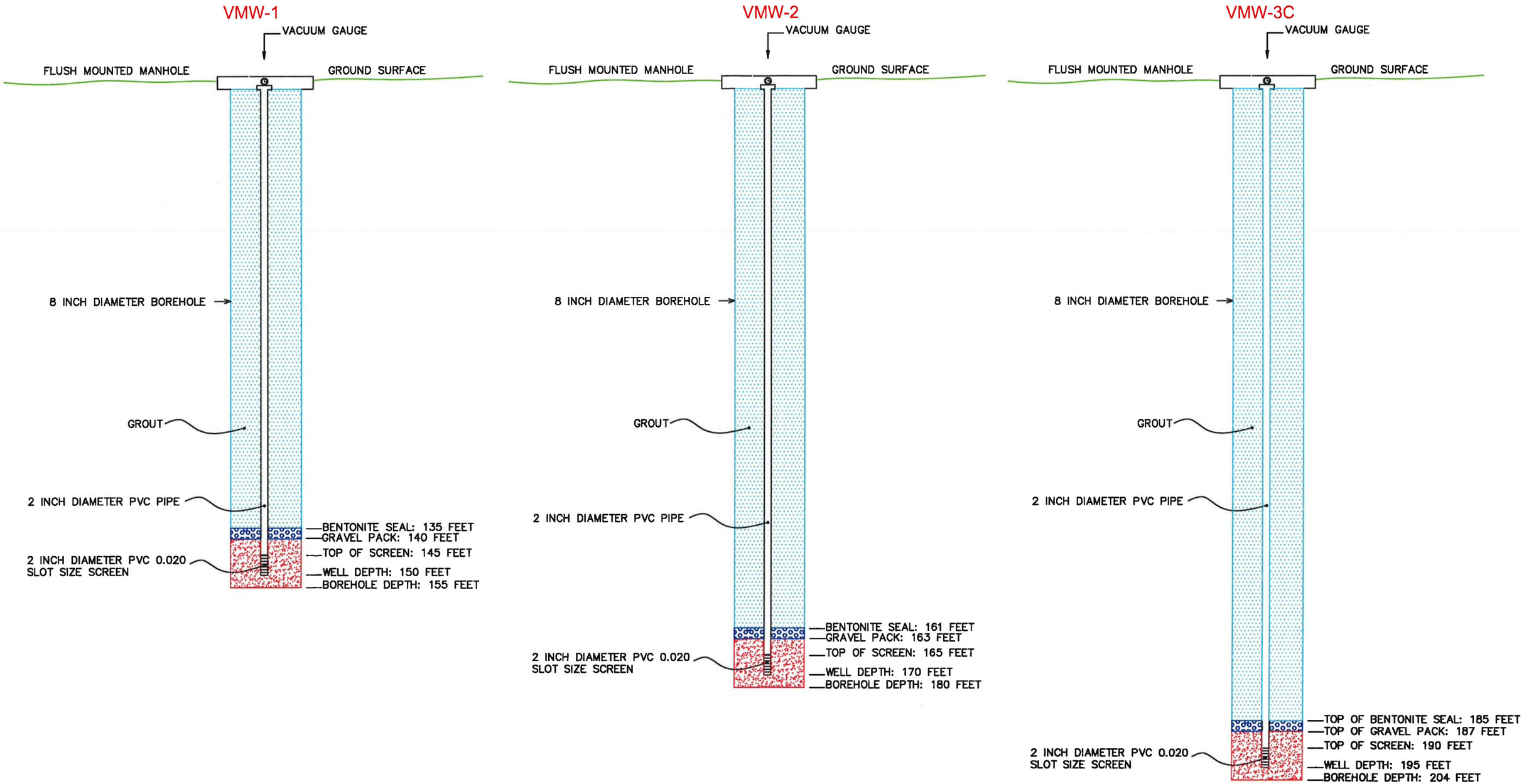
ERTEC



SCALE: NTS	WELL CONSTRUCTION DETAIL CORRECTIVE MEASURE STUDY PFIZER PHARMACEUTICALS LLC ARECIBO, PUERTO RICO
REV.: WM	
FILE: FIG	
DWG. BY: EGN	
JOB: E145288	

ERTEC
ENVIRONMENTAL RESOURCE TECHNOLOGIES

D:\ERTEC NEW ARCHIVE BY EDH\9-PFIZER ARECIBO - UPJOHN\14-5288\WELL CONSTRUCTION DETAIL (FORMER FIG 4-2).dwg, 8/10/2015 1:12:31 PM, iR-ADV C7055



VMW-1, VMW-2 AND VMW-3C WELLS CONSTRUCTION DETAILS
CORRECTIVE MEASURE STUDY
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO

DATE: 07/24/2013	SCALE: NTS	DRAWN BY: EGN	REV.: WIM	FILE: FIGURE	JOB: E145288

ERTEC
ENVIRONMENTAL RESOURCE TECHNOLOGIES

APPENDIX 2

CHAIN OF CUSTODY DOCUMENTATION

SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E145288

ERTEC

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

1 of 1 COCs

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Robertode Jesus
Company: ERTEC, PSC	Phone: (787) 792-8902	
Address: Almacen St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com	
City/State/Zip Rio Piedras PR 00928	Site Contact: Wanda Morales	
Phone: (787) 792-8902	TA Contact: Don Davis CKP	
FAX: (787) 783-5555	**Analysis Turnaround Time**	
Project Name: Pfizer Arecibo	Standard (Specify) ✓	
Site: Pfizer/Arecibo PR	Rush (Specify)	
PO #		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-7	100914	1252					2946	X									X		
VMW-2-7	100914	1300					3285	X									X		
VMW-3C-7	100914	1309					3025	X									X		
INLET-7	100914	1317					5441	X									X		
STACK-7	100914	1326					5160	X									X		

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
Samples were collected on 10/09/14 secure until shipment @ FedEx on 10/10/14. RJB

Samples Shipped by: Robertode Jesus - ~~Robert Jesus~~	Date/Time: 10/09/14 @ 1630	Samples Received by: 10/09/14 @ 1630/FedEx
Samples Relinquished by:	Date/Time:	Received by: RJB
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto De Jesus/ERTEC
Company: ERTEC, PSC	Phone: (787) 792-8902	1 of 2 COCs
Address: Alivar St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com	Job #14-5288
City/State/Zip: RPO Piedras, PR 00921		
Phone: (787) 792-8902	Site Contact: Wanda Morales	
FAX: (787) 783-5555	TA Contact: Don Davis PCKP	
Project Name: Pfizer-Arecibo	**Analysis Turnaround Time**	
Site: Arecibo, PR	Standard (Specify) ✓	
PO #	Rush (Specify)	

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum In Field, "Hg (Start)	Canister Vacuum In Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-8	111814	1406	/	/	/	/	5434	X									X		
VMW-2-8	111814	1417	/	/	/	/	2706	X									X		
VMW-3C-8	111814	1428	/	/	/	/	2901	X									X		
INLET-8	111814	1439	/	/	/	/	5895	X									X		
SVE-A	111814	1444	/	/	/	/	2721	X									X		
STACK-8	111814	1455	/	/	/	/	5049	X									X		

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (Inches of Hg)	Interior	Ambient
Start		
Stop		

200-25479 Chain of Custody

Special Instructions/QC Requirements & Comments: none.

Samples Shipped by: Roberto De Jesus/ERTEC	Date/Time: 11/18/14 @ 1700	Samples Received by: FedEx on 11/18/14 @ 1700.
Samples Relinquished by:	Date/Time:	Received by: TASUR 11/19/14 1030
Relinquished by:	Date/Time:	Received by:

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: Roberto De Jesus	2 of 2 COCs
Company: ERTEC, PSC	Phone: (787) 792-8902		Job # 14.5288
Address: Amover St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip: Rio Piedras, PR 00921			
Phone: (787) 792-8902	Site Contact: Wanda Morales		
FAX: (787) 783-5555	TA Contact: Don Dawpckp		
Project Name: PR-Ver. Arecibo	**Analysis Turnaround Time**		
Site: Arecibo, PR	Standard (Specify) ✓		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TB-111814	111814	✓	✓	✓	✓	✓	2516	X											X

RPB 11/18/14 RPB 11/18/14

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments: Trip Blank - 11/18/14 send by Lab.

Samples Shipped by: Roberto DE Jesus/ERTEC	Date/Time: 11/18/14 @ 1700	Samples Received by: FedEx on 11/18/14 @ 1700.	
Samples Relinquished by:	Date/Time:	Received by: TABUS 11/19/14	1030
Relinquished by:	Date/Time:	Received by:	

Lab Use Only **Shipper Name:** **Opened by:** **Condition:**

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	**Samples Collected By:**	1 of 2 COCs
Company: ERTEC, PSC	Phone: 792-8902	Roberto De Jesus	
Address: Amyr St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip Rio Piedras, PR 00928			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Pawlicki		
Project Name: Pfizer Arecibo SVE	**Analysis Turnaround Time**		
Site: Arecibo, PR	Standard (Specify) ✓		
PO # 14-5288	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-9	011315	1405	—	—	—	—	5136	X									X		
SVE-A	011315	1410	—	—	—	—	2595	X									X		
VMW-2-9	011315	1420	—	—	—	—	2905	X									X		
VMW-3C-9	011315	1430	—	—	—	—	5080	X									X		
INLET-9	011315	1440	—	—	—	—	5129	X									X		
STACK-9	011315	1450	—	—	—	—	5025	X									X		

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

RJB 01/13/15

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

200-26296 Chain of Custody

Special Instructions/QC Requirements & Comments: TB-011315 sample → Trip Blank (other).

Samples Shipped by: Roberto De Jesus / [illegible]	Date/Time: 01/13/15 @ 1600	Samples Received by: 01/13/15	FedEx @ 1600
Samples Relinquished by:	Date/Time:	Received by: TABUR 1/14/15	1050
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	**Samples Collected By:** Roberto De Jesus	2 of 2 COCs
Company: ERTEC, PSC	Phone: 792-8902		
Address: Amur St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip: Rio Piedras, PR 00928			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Davidson		
Project Name: Pfizer Area 60/SVE	**Analysis Turnaround Time**		
Site: Area 60, PR	Standard (Specify) ✓		
PO # 14.5288	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TB-011315	011315						4829	X										X

RJB 01/13/15

Temperature (Fahrenheit)		
	Interior	Ambient
Start		
Stop		

RJB 01/13/15

Pressure (inches of Hg)		
	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments: TB-011315 sample → Trip Blank (other).

Samples Shipped by: Roberto De Jesus / ~~Rafael Jesus~~	Date/Time: 01/13/15 @ 1600	Samples Received by: 01/13/15 FedEx @ 1600
Samples Relinquished by:	Date/Time:	Received by: TABOR 1/14/15
Relinquished by:	Date/Time:	Received by:

CJO

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	Samples Collected By: José L. Rivera	1 of 1 COCs
Company: Estec	Phone: 787 793-5820		
Address: Hwy 1.5, Rpto Landing	Email: wmorales@estec-pr.com		
City/State/Zip Rio Piedras, PR 00921	Site Contact: Wanda Morales,		
Phone: 787 792-5820	TA Contact: Jon Jaworski		
FAX: 787 783-5555	Analysis Turnaround Time		
Project Name: Pfizer Arecibo SVE	Standard (Specify) 1		
Site: Arecibo, PR	Rush (Specify) n/a		
PO #			

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TB 022715	2/27/15	X					3253	X									X		
VMW-1-10	2/27/15	1055					5108	X									X		
VMW-2-10	2/27/15	1104					3735	X									X		
VMW-3R-10	2/27/15	1116					2509	X									X		
INLET-10	2/27/15	1134					2358	X									X		
STACK-10	2/27/15	1129					3554	X									X		

Temperature (Fahrenheit)			
	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)			
	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:

Samples Shipped by:	Date/Time: 2/27/15 / 1600	Samples Received by:	
Samples Relinquished by:	Date/Time:	Received by:	
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	**Samples Collected By:**	1 of 2 COCs
Company: ERTEC PSC	Phone: 792-8902	Roberto De Jesus	
Address: Amur St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip RPO Pedras PR 00921			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Davis CKP		
Project Name: Pfizer Arecibo SVE	**Analysis Turnaround Time**		
Site: Arecibo PR - Pfizer	Standard (Specify) ✓		
~~PO#~~ Job 14-5288	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-2-11	040115	1200					2574	X									X		
SVE-A	040115	1204					2946	X									X		
VMW-1-11	040115	1215					5720	X									X		
VMW-3C-11	040115	1220					5656	X									X		
INLET-11	040115	1224					4385	X									X		
STACK-11	040115	1230					6014	X									X		

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

Pressure (inches of Hg)	Interior	Ambient	
Start			
Stop			

200-27361 Chain of Custody

Special Instructions/QC Requirements & Comments:
*Trip Blank → TB040115 (other).

Samples Shipped by: Roberto De Jesus / ~~Roberto De Jesus~~	Date/Time: 04/01/15 @ 1600	Samples Received by: 04/01/15 @ 1600, FedEX
Samples Relinquished by:	Date/Time:	Received by: TABV 4/2/15 1100
Relinquished by:	Date/Time:	Received by:

Lab Use Only Shipper Name: Opened by Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	**Samples Collected By:**	2 of 2 COCs
Company: ERTEC, PSC	Phone: 792-8902	Roberto De Jesús	
Address: Amur St. 45 Rpto. Laurel	Email: wmorales@ertecpr.com		
City/State/Zip Rio Piedras PR 00921			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Daiker		
Project Name: Pfizer Arecibo SVE	**Analysis Turnaround Time**		
Site: Arecibo PR - Pfizer	Standard (Specify) ✓		
~~PO#~~ Job 14.5288	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
TB-040115	040115	/	/	/	/	/	5063	X											X
	RAB 04/01/15										RAB 04/01/15								

Temperature (Fahrenheit)	Interior	Ambient	
Start			
Stop			

~~Pressure (inches of Hg)~~	Interior	Ambient	
Start			
Stop			

Special Instructions/QC Requirements & Comments:
* Trip Blank → TB040115 (other).

Samples Shipped by: Roberto De Jesús ~~Roberto De Jesús~~	Date/Time: 04/01/15 @ 1600	Samples Received by: 04/01/15 @ 1600, FedEX	
Samples Relinquished by:	Date/Time:	Received by: 4/2/15 1100	TABV
Relinquished by:	Date/Time:	Received by:	

Lab Use Only Shipper Name: Opened by: Condition:

TestAmerica Burlington
30 Community Drive
Suite 11
South Burlington, VT 05403
phone 802-660-1990 fax 802-660-1919

Canister Samples Chain of Custody Record

TestAmerica Analytical Testing Corp. assumes no liability with respect to the collection and shipment of these samples.

Client Contact Information	Project Manager: Wanda Morales	**Samples Collected By:**	1 of 1 COCs
Company: ERTEC, PSC	Phone: (787) 792-8902	Roberto De Jesus	
Address: Amur St. A5 Rpto. Landrau	Email: wmorales@ertecpr.com		
City/State/Zip Rio Piedras PR 00927			
Phone: 792-8902	Site Contact: Wanda Morales		
FAX: 783-5555	TA Contact: Don Dawicki		
Project Name: Pfizer Arecibo-SVE	**Analysis Turnaround Time**		
Site: Pfizer-Arecibo, PR.	Standard (Specify) ✓		
PO# 14-5288 (508)	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	MA-APH	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
VMW-1-12	043015	1119	/	/	/	/	5415	X									X		
VMW-2-12	043015	1129	/	/	/	/	3762	X									X		
VMW-3C-12	043015	1140	/	/	/	/	4303	X									X		
INLET-12	043015	1150	/	/	/	/	5065	X									X		
STACK-12	043015	1202	/	/	/	/	4166	X									X		

Temperature (Fahrenheit)	Interior	Ambient
Start		
Stop		

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments: Job #14-5288

Samples Shipped by: Roberto De Jesus / ~~Roberto De Jesus~~	Date/Time: 04/30/15 @ 1500	Samples Received by: FedEx on 04/30/15 @ 1500
Samples Relinquished by:	Date/Time:	Received by:
Relinquished by:	Date/Time:	Received by:

Lab Use Only: Shipper Name:

APPENDIX 3

DATA VALIDATION REPORTS

SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E145288

ERTEC

Eden Environmental, LLC

November 3, 2014

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on October 9, 2014, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-24713:

STACK-7	INLET-7	VMW-1-7
VMW-2-7	VMW-3C-7	

The data package was received on October 29, 2014. The laboratory performed well, and no qualifiers were added by the validator.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of the USEPA Compendium Method TO-15. The validation *effort was restricted to the reported results and supporting data for these compounds.*

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15," SOP HW-31 Revision 4, October, 2006). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest Regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –14-5288

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-24713
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: November 3, 2014

13103/ESC/CEW
200-24713-TO-15

Eden Environmental, LLC

INTRODUCTION

The following samples were collected on October 9, 2014, submitted to TestAmerica in Burlington, Vermont, and assigned to Sample Delivery Group (SDG) 200-24713:

STACK-7	INLET-7	VMW-1-7
VMW-2-7	VMW-3C-7	

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15," SOP HW-31 Revision 4, October, 2006). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were in good condition with container custody seals intact. A copy of the chain of custody record was also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for two bromofluorobenzene (BFB) instrument performance checks. Requirements for both instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system, which was identified as "CHB." No evidence was presented in the data package to indicate that manual integrations were performed on any project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

IC was established on September 21-22, 2014. An ICV was analyzed immediately following the IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of a single CV standard was present in the data package. All reported sample analyses were associated with this standard. All criteria were met for this standard.

IV. Blanks

A laboratory blank was analyzed in the analytical sequence containing the site samples. No project-specified target analytes were detected in the laboratory blank. No field-submitted blank was included in this data set.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in the analytical sequence containing the reported samples. The LCS was spiked with all of the project-specified target analytes. Recoveries of the target analytes in the LCS was within the quality control limits specified by the validation guidance document.

VII. Laboratory Replicate Analyses

STACK-7 was analyzed as a laboratory replicate. Reproducibility between the positively paired results for chloroform and carbon tetrachloride was within the laboratory-specified acceptance limits. Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain. No co-located sample was included in this data set.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standard in the IC was 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

With regard to the chain of custody records,

- The laboratory sample received by signature is illegible.
- The samples were shipped on October 9, 2014, but were not received by the laboratory until October 11, 2014. No information regarding the physical custody of these samples during the delayed arrival at the laboratory was provided.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort did not result in the qualification of any sample results; the validator did not add any qualifiers to the laboratory reported results.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of TO-15 data reported in SDG 200-24713.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-24713-1
Sdg Number: 200-24713

Client Sample ID: STACK-7

Lab Sample ID: 200-24713-5
Client Matrix: Air

Date Sampled: 10/09/2014 1326
Date Received: 10/11/2014 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-78645	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	9990_022.D
Dilution:	220			Initial Weight/Volume:	50 mL
Analysis Date:	10/15/2014 0820			Final Weight/Volume:	200 mL
Prep Date:	10/15/2014 0820			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	1100	U	150	1100
Methylene Chloride	110	U	26	110
Chloroform	290		8.4	44
Carbon tetrachloride	5100		2.4	44

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	2600	U	360	2600
Methylene Chloride	380	U	92	380
Chloroform	1400		41	210
Carbon tetrachloride	32000		15	280

Client: Ertec

Job Number: 200-24713-1
Sdg Number: 200-24713

Client Sample ID: INLET-7

Lab Sample ID: 200-24713-4
Client Matrix: Air

Date Sampled: 10/09/2014 1317
Date Received: 10/11/2014 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-78645	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	9990_014.D
Dilution:	4090			Initial Weight/Volume:	60 mL
Analysis Date:	10/14/2014 2132			Final Weight/Volume:	200 mL
Prep Date:	10/14/2014 2132			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	20000	U	2800	20000
Methylene Chloride	2000	U	490	2000
Chloroform	4300		160	820
Carbon tetrachloride	120000		45	820

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	49000	U	6700	49000
Methylene Chloride	7100	U	1700	7100
Chloroform	21000		760	4000
Carbon tetrachloride	740000		280	5100

Client: Ertec

Job Number: 200-24713-1
Sdg Number: 200-24713

Client Sample ID: **VMW-1-7**

Lab Sample ID: 200-24713-1
Client Matrix: Air

Date Sampled: 10/09/2014 1252
Date Received: 10/11/2014 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-78645	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	9990_011.D
Dilution:	7610			Initial Weight/Volume:	25 mL
Analysis Date:	10/14/2014 1856			Final Weight/Volume:	200 mL
Prep Date:	10/14/2014 1856			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	38000	U	5300	38000
Methylene Chloride	3800	U	910	3800
Chloroform	4800		290	1500
Carbon tetrachloride	180000		84	1500

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	90000	U	12000	90000
Methylene Chloride	13000	U	3200	13000
Chloroform	23000		1400	7400
Carbon tetrachloride	1100000		530	9600

Client: Ertec

Job Number: 200-24713-1
Sdg Number: 200-24713

Client Sample ID: VMW-2-7

Lab Sample ID: 200-24713-2
Client Matrix: Air

Date Sampled: 10/09/2014 1300
Date Received: 10/11/2014 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-78645	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	9990_012.D
Dilution:	4580			Initial Weight/Volume:	36 mL
Analysis Date:	10/14/2014 1948			Final Weight/Volume:	200 mL
Prep Date:	10/14/2014 1948			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	23000	U	3200	23000
Methylene Chloride	2300	U	550	2300
Chloroform	5300		170	920
Carbon tetrachloride	130000		50	920

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	54000	U	7500	54000
Methylene Chloride	8000	U	1900	8000
Chloroform	26000		850	4500
Carbon tetrachloride	840000		320	5800

Client: Ertec

Job Number: 200-24713-1
Sdg Number: 200-24713

Client Sample ID: VMW-3C-7

Lab Sample ID: 200-24713-3
Client Matrix: Air

Date Sampled: 10/09/2014 1309
Date Received: 10/11/2014 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-78645	Instrument ID:	CHB.I
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	9990_013.D
Dilution:	3160			Initial Weight/Volume:	58 mL
Analysis Date:	10/14/2014 2040			Final Weight/Volume:	200 mL
Prep Date:	10/14/2014 2040			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	16000	U	2200	16000
Methylene Chloride	1600	U	360	1600
Chloroform	3900		120	630
Carbon tetrachloride	94000		35	630

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	38000	U	5200	38000
Methylene Chloride	5500	U	1300	5500
Chloroform	19000		590	3100
Carbon tetrachloride	590000		220	4000

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Eden Environmental, LLC

December 3, 2014

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on November 18, 2014, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-25479

STACK-8	INLET-8	VMW-1-8
VMW-2-8	VMW-3C-8	SVE-A
TB-111814		

The data package was received on December 2, 2014. The laboratory performed well, and no qualifiers were added by the validator.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of the USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15," SOP HW-31 Revision 4, October, 2006). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest Regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –14-5288

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-25479
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: December 3, 2014

13103/ESC/CEW
200-25479-TO-15

Eden Environmental, LLC

INTRODUCTION

The following samples were collected on November 18, 2014, submitted to TestAmerica in Burlington, Vermont, and assigned to Sample Delivery Group (SDG) 200-25479:

STACK-8	INLET-8	VMW-1-8
VMW-2-8	VMW-3C-8	SVE-A
TB-111814		

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15," SOP HW-31 Revision 4, October, 2006). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were in good condition with container custody seals intact. A copy of the chain of custody record was also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for two bromofluorobenzene (BFB) instrument performance checks. Requirements for both instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system, which was identified as "CHX." No evidence was presented in the data package to indicate that manual integrations were performed on any project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

IC was established on November 10, 2014. An ICV was analyzed immediately following the IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of a single CV standard was present in the data package. All reported sample analyses were associated with this standard. All criteria were met for this standard.

IV. Blanks

A laboratory blank was analyzed in the analytical sequence containing the site samples. No project-specified target analytes were detected in the laboratory blank.

A trip blank (TB-111814) was submitted blank with the samples in this data set. No project-specified target analytes were detected in TB-111814.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in the analytical sequence containing the reported samples. The LCS was spiked with all of the project-specified target analytes. Recoveries of the target analytes in the LCS was within the quality control limits specified by the validation guidance document.

VII. Laboratory Replicate Analyses

STACK-8 was analyzed as a laboratory replicate. Reproducibility between the positively paired results for chloroform and carbon tetrachloride was within the laboratory-specified acceptance limits. Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain.

SVE-A was collected as a co-located sample of INLET-8. Acceptable reproducibility between concentrations reported for chloroform and carbon tetrachloride was observed. Acetone and methylene chloride were not detected in either of these samples; therefore, no further quantitative evaluation of precision could be made from these data.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standard in the IC was 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

With regard to the chain of custody records,

- The laboratory sample received by signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort did not result in the qualification of any sample results; the validator did not add any qualifiers to the laboratory reported results.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of TO-15 data reported in SDG 200-24713.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: **STACK-8**

Lab Sample ID: 200-25479-6
Client Matrix: Air

Date Sampled: 11/18/2014 1455
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-009.D
Dilution:	170			Initial Weight/Volume:	20 mL
Analysis Date:	11/25/2014 1639			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 1639			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	850	U	120	850
Methylene Chloride	85	U	20	85
Chloroform	320		6.5	34
Carbon tetrachloride	5600		1.9	34

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	2000	U	280	2000
Methylene Chloride	300	U	71	300
Chloroform	1500		32	170
Carbon tetrachloride	35000		12	210

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: **INLET-8**

Lab Sample ID: 200-25479-4
Client Matrix: Air

Date Sampled: 11/18/2014 1439
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-014.D
Dilution:	1070			Initial Weight/Volume:	34 mL
Analysis Date:	11/25/2014 2029			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 2029			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5400	U	740	5400
Methylene Chloride	540	U	130	540
Chloroform	2300		41	210
Carbon tetrachloride	35000		12	210

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	13000	U	1800	13000
Methylene Chloride	1900	U	450	1900
Chloroform	11000		200	1000
Carbon tetrachloride	220000		74	1300

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: VMW-1-8

Lab Sample ID: 200-25479-1
Client Matrix: Air

Date Sampled: 11/18/2014 1406
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds In Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-011.D
Dilution:	1950			Initial Weight/Volume:	29 mL
Analysis Date:	11/25/2014 1811			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 1811			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	9800	U	1300	9800
Methylene Chloride	980	U	230	980
Chloroform	5600		74	390
Carbon tetrachloride	76000		21	390

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	23000	U	3200	23000
Methylene Chloride	3400	U	810	3400
Chloroform	27000		360	1900
Carbon tetrachloride	480000		130	2500

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: VMW-2-8

Lab Sample ID: 200-25479-2
Client Matrix: Air

Date Sampled: 11/18/2014 1417
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-012.D
Dilution:	1490			Initial Weight/Volume:	51 mL
Analysis Date:	11/25/2014 1857			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 1857			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7500	U	1000	7500
Methylene Chloride	750	U	180	750
Chloroform	4200		57	300
Carbon tetrachloride	58000		16	300

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	18000	U	2400	18000
Methylene Chloride	2600	U	620	2600
Chloroform	21000		280	1500
Carbon tetrachloride	360000		100	1900

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: VMW-3C-8

Lab Sample ID: 200-25479-3
Client Matrix: Air

Date Sampled: 11/18/2014 1428
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-013.D
Dilution:	1420			Initial Weight/Volume:	38 mL
Analysis Date:	11/25/2014 1943			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 1943			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7100	U	980	7100
Methylene Chloride	710	U	170	710
Chloroform	2500		54	280
Carbon tetrachloride	45000		16	280

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	17000	U	2300	17000
Methylene Chloride	2500	U	590	2500
Chloroform	12000		260	1400
Carbon tetrachloride	280000		98	1800

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: SVE-A

Lab Sample ID: 200-25479-5
Client Matrix: Air

Date Sampled: 11/18/2014 1444
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-015.D
Dilution:	1450			Initial Weight/Volume:	36 mL
Analysis Date:	11/25/2014 2116			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 2116			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7300	U	1000	7300
Methylene Chloride	730	U	170	730
Chloroform	3100		55	290
Carbon tetrachloride	48000		16	290

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	17000	U	2400	17000
Methylene Chloride	2500	U	600	2500
Chloroform	15000		270	1400
Carbon tetrachloride	300000		100	1800

Client: Ertec

Job Number: 200-25479-1
Sdg Number: 200-25479

Client Sample ID: **TB-111814**

Lab Sample ID: 200-25479-7TB
Client Matrix: Air

Date Sampled: 11/18/2014 0000
Date Received: 11/19/2014 1030

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-81174	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	10770-008.D
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	11/25/2014 1553			Final Weight/Volume:	200 mL
Prep Date:	11/25/2014 1553			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5.0	U	0.69	5.0
Methylene Chloride	0.50	U	0.12	0.50
Chloroform	0.20	U	0.038	0.20
Carbon tetrachloride	0.20	U	0.011	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12	U	1.6	12
Methylene Chloride	1.7	U	0.42	1.7
Chloroform	0.98	U	0.19	0.98
Carbon tetrachloride	1.3	U	0.069	1.3

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Eden Environmental, LLC

February 2, 2015

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on January 13, 2015, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-26296:

STACK-9	INLET-9	VMW-1-9
VMW-2-8	VMW-3C-9	SVE-A
TB-011315		

The data package was received on January 29, 2015. The laboratory performed well, and no qualifiers were added by the validator.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest Regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –14-5288

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-26296
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: February 2, 2015

13103/ESC/CEW
200-26296-TO-15

Eden Environmental, LLC

INTRODUCTION

The following samples were collected on January 13, 2015, submitted to TestAmerica in Burlington, Vermont, and assigned to Sample Delivery Group (SDG) 200-26296:

STACK-9	INLET-9	VMW-1-9
VMW-2-9	VMW-3C-9	SVE-A
TB-011315		

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were in good condition with container custody seals intact. A copy of the chain of custody record was also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for two bromofluorobenzene (BFB) instrument performance checks. Requirements for both instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system, which was identified as "CHX." No evidence was presented in the data package to indicate that manual integrations were performed on any project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

IC was established on November 10, 2014. An ICV was analyzed immediately following the IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of a single CV standard was present in the data package. All reported sample analyses were associated with this standard. All criteria were met for this standard.

IV. Blanks

A laboratory blank was analyzed in the analytical sequence containing the site samples. No project-specified target analytes were detected in the laboratory blank.

A trip blank (TB-011315) was submitted with the samples in this data set. No project-specified target analytes were detected in TB-011315.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in the analytical sequence containing the reported samples. The LCS was spiked with all of the project-specified target analytes. Recoveries of the target analytes in the LCS was within the quality control limits specified by the validation guidance document.

VII. Laboratory Replicate Analyses

STACK-9 was analyzed as a laboratory replicate. Reproducibility between the positively paired results for chloroform and carbon tetrachloride was within the laboratory-specified acceptance limits. Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain.

SVE-A was collected as a co-located sample of VMW-1-9. Acceptable reproducibility between concentrations reported for chloroform and carbon tetrachloride was observed. Acetone and methylene chloride were not detected in either of these samples; therefore, no further quantitative evaluation of precision could be made from these data.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standard in the IC was 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

With regard to the chain of custody records,

- The laboratory sample received by signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort did not result in the qualification of any sample results; the validator did not add any qualifiers to the laboratory reported results.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-26296.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: STACK-9

Lab Sample ID: 200-26296-6
Client Matrix: Air

Date Sampled: 01/13/2015 1450
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-005.D
Dilution:	113			Initial Weight/Volume:	32 mL
Analysis Date:	01/16/2015 1318			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1318			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	570	U	78	570
Methylene Chloride	57	U	14	57
Chloroform	220		4.3	23
Carbon tetrachloride	3800		1.2	23

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	1300	U	190	1300
Methylene Chloride	200	U	47	200
Chloroform	1100		21	110
Carbon tetrachloride	24000		7.8	140

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: **INLET-9**

Lab Sample ID: 200-26296-5
Client Matrix: Air

Date Sampled: 01/13/2015 1440
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-011.D
Dilution:	5950			Initial Weight/Volume:	27 mL
Analysis Date:	01/16/2015 1757			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1757			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	30000	U	4100	30000
Methylene Chloride	3000	U	710	3000
Chloroform	5600		230	1200
Carbon tetrachloride	170000		65	1200

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	71000	U	9800	71000
Methylene Chloride	10000	U	2500	10000
Chloroform	27000		1100	5800
Carbon tetrachloride	1100000		410	7500

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: VMW-1-9

Lab Sample ID: 200-26296-1
Client Matrix: Air

Date Sampled: 01/13/2015 1405
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-007.D
Dilution:	9660			Initial Weight/Volume:	20 mL
Analysis Date:	01/16/2015 1451			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1451			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	48000	U	6700	48000
Methylene Chloride	4800	U	1200	4800
Chloroform	5700		370	1900
Carbon tetrachloride	320000		110	1900

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	110000	U	16000	110000
Methylene Chloride	17000	U	4000	17000
Chloroform	28000		1800	9400
Carbon tetrachloride	2000000		670	12000

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: VMW-2-9

Lab Sample ID: 200-26296-3
Client Matrix: Air

Date Sampled: 01/13/2015 1420
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds In Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-009.D
Dilution:	8680			Initial Weight/Volume:	25 mL
Analysis Date:	01/16/2015 1624			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1624			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	43000	U	6000	43000
Methylene Chloride	4300	U	1000	4300
Chloroform	8200		330	1700
Carbon tetrachloride	250000		95	1700

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	100000	U	14000	100000
Methylene Chloride	15000	U	3600	15000
Chloroform	40000		1600	8500
Carbon tetrachloride	1500000		600	11000

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: VMW-3C-9

Lab Sample ID: 200-26296-4
Client Matrix: Air

Date Sampled: 01/13/2015 1430
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-010.D
Dilution:	5440			Initial Weight/Volume:	32 mL
Analysis Date:	01/16/2015 1710			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1710			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	27000	U	3800	27000
Methylene Chloride	2700	U	650	2700
Chloroform	5900		210	1100
Carbon tetrachloride	150000		60	1100

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	65000	U	8900	65000
Methylene Chloride	9400	U	2300	9400
Chloroform	29000		1000	5300
Carbon tetrachloride	940000		380	6800

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: SVE-A

Lab Sample ID: 200-26296-2
Client Matrix: Air

Date Sampled: 01/13/2015 1410
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds In Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-008.D
Dilution:	11500			Initial Weight/Volume:	20 mL
Analysis Date:	01/16/2015 1537			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1537			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	58000	U	7900	58000
Methylene Chloride	5800	U	1400	5800
Chloroform	6600		440	2300
Carbon tetrachloride	350000		130	2300

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	140000	U	19000	140000
Methylene Chloride	20000	U	4800	20000
Chloroform	32000		2100	11000
Carbon tetrachloride	2200000		800	14000

Client: Ertec

Job Number: 200-26296-1
Sdg Number: 200-26296

Client Sample ID: **TB-011315**

Lab Sample ID: 200-26296-7TB
Client Matrix: Air

Date Sampled: 01/13/2015 0000
Date Received: 01/14/2015 1050

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-83484	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	11669-012.D
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	01/16/2015 1843			Final Weight/Volume:	200 mL
Prep Date:	01/16/2015 1843			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5.0	U	0.69	5.0
Methylene Chloride	0.50	U	0.12	0.50
Chloroform	0.20	U	0.038	0.20
Carbon tetrachloride	0.20	U	0.011	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12	U	1.6	12
Methylene Chloride	1.7	U	0.42	1.7
Chloroform	0.98	U	0.19	0.98
Carbon tetrachloride	1.3	U	0.069	1.3

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity; but the result may be biased high.
J-	The result is an estimated quantity; but the result may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

Eden Environmental, LLC

March 17, 2015

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on February 27, 2015, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-26884:

STACK-10	INLET-10	VMW-1-10
VMW-2-10	VMW-3C-10	TB 022715

The data package was received on March 16, 2015. The laboratory performed well, but qualification of one result was necessary. These qualifications are described in the applicable section of this report and in the Overall Assessment (Section XII).

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –14-5288

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-26884
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: March 17, 2015

13103/ESC/CEW
200-26884-TO-15

Eden Environmental, LLC

INTRODUCTION

The following samples were collected on February 27, 2015, submitted to TestAmerica in Burlington, Vermont, and assigned to Sample Delivery Group (SDG) 200-26884:

STACK-10	INLET-10	VMW-1-10
VMW-2-10	VMW-3C-10	TB 022715

The data package was received on March 16, 2015. The laboratory performed well, but qualification of one result was necessary. This qualification is described in the applicable section of this report and in the Overall Assessment (Section XII). Documentation issues are discussed in Section XI.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

A. Pre Sampling Criteria

Raw data for the canister cleaning certification analyses associated with the canisters used for this sampling effort were included in the data package. The canisters used for sample collection were cleaned on December 17, 18, and 22, 2014 and on February 12, 2015. One canister from each cleaning batch was analyzed for contamination. No target compounds in any of the canister certification samples were above the allowable limits [the analyte-specific unadjusted reporting detection limit (RDL)].

Identifications of the canisters and flow controllers used for sampling were documented on the chain of custody record and were consistent with the identifications found in the data package. Prior to delivery to the client, a leak test was performed on each canister. The initial and final pressure in each canister was determined to be ± 2 psi over a 24 hour period.

B. Post Sampling Criteria

The samples were collected on February 27, 20/15, and were analyzed on March 3, 2015, which was within the holding time of 30 days from the date of collection specified by the validation SOP.

II. GC/MS Instrument Performance Checks

Results were reported for two bromofluorobenzene (BFB) instrument performance checks. Requirements for both instrument performance checks were met.

Results were reported for six additional BFB instrument performance checks associated with the clean canister certifications were analyzed. Based on the information provided on the summary forms, requirements for all six instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system, which was identified as "CHG." The areas for chloroform in the 0.20 ppbv standard and in INLET-10 were manually integrated. Documentation of these manual integrations were provided in the data package, which confirmed that these integrations were properly performed and correctly incorporated into the associated quantitation reports. No evidence was presented in the data package to indicate that manual integrations were performed on any other project-specified target compounds or on any of the internal standards in any of the calibration standards.

The clean canister certification analyses were performed on three instruments identified as "CHC," "CHW," and "CHX." No documentation of the calibration standards were provided; therefore, no evaluation to discern if manual integrations were performed could be determined.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

IC was established on February 17, 2015, in association with the site sample analyses. An ICV was analyzed following the IC on February 18, 2015. EPA Region II-specified acceptance criteria were met for all of these standards.

Three additional ICs were associated with the clean canister certification analyses. These were performed on December 1, 2014, on instrument CHC, on December 17, 2014, on instrument CHW, and on November 10, 2014, on instrument CHX. No supporting data for any of these ICs were provided in the data package, but based on the IC summary forms, all EPA Region II-specified acceptance criteria were met for all three ICs.

B. Continuing Verification (CV)

Documentation of a single CV standard performed on March 3, 2015, was present in the data package. All reported sample analyses were associated with this standard. All criteria were met for this standard.

Three additional CV standards were associated with the clean canister certification analyses. These were performed on December 22, 2014, on instrument CHC, on December 23, 2014, on instrument CHW, and on February 16, 2015, on instrument CHX. No supporting data for any of these CV standards were provided in the data package, but based on the CV summary forms, all EPA Region II-specified acceptance criteria were met for all three CVs.

IV. Blanks

A laboratory blank was analyzed in the analytical sequence containing the site samples. No project-specified target analytes were detected above the allowable limits in the laboratory blank.

A trip blank (TB 022715) was submitted with the samples in this data set. No project-specified target analytes were detected in TB-022715.

Three additional laboratory blanks were associated with the clean canister certification analyses. No project-specified target analytes were detected above the allowable limits in any of the laboratory blanks.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in the analytical sequence containing the reported samples. The LCS was spiked with all of the project-specified target analytes. Recoveries of the target analytes in the LCS were within the quality control limits specified by the validation guidance document.

Three additional LCSs were analyzed in the analytical sequences containing the clean canister certification analyses. No supporting data were provided, but based on the recoveries reported on the summary forms, all recoveries were acceptable.

VII. Laboratory Replicate Analyses

STACK-10 was analyzed as a laboratory replicate. Reproducibility between the positively paired results for chloroform and carbon tetrachloride was within the laboratory-specified acceptance limits. Acetone and methylene chloride were not detected in either analysis of this sample; therefore, no further quantitative evaluation of precision could be made from these data.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. No co-located samples were included in this data set.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

The concentration of carbon tetrachloride in the 568-fold dilution of VMW-1-10 exceeded the calibration range of the instrument and was qualified as estimated (J). A 1210-fold diluted analysis of this sample was performed and the concentration of carbon tetrachloride was within the calibration range. The result for carbon tetrachloride only was taken from the more-diluted analysis VMW-1-10 and all other results were taken from the less diluted analysis. The Laboratory Analytical Data Form for the 568-fold dilution of VMW-1-10 has been hybridized to include the results recommended for used based on the validation effort. The Laboratory Analytical Data Form for the 1210-fold analysis of VMW-1-10 has been marked "Do Not Use" for clarity. All laboratory-applied "E" and "D" qualifiers were removed by the validator.

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standard in the IC was 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

With regard to the chain of custody records,

- The laboratory sample received by signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

Copies of all three FedEx airbills were included in the data package to document the transfer of the samples from the field to the laboratory.

With regard to data presentation,

- The narrative indicates the container label did not match the chain of custody record for INLET-10. The identification on the chain of custody record was correctly used by the laboratory throughout the data package.

- The narrative indicates the chain of custody record lists the identification of one of the canisters as 2358, but the canister returned was actually 2538. The instrument run log support the chain of custody identification of 2358.

- TB 022715 was incorrectly identified as TB022715 throughout the data package. The validation used the identification found on the chain of custody record (TB 022715) throughout the validation report.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Based on the findings of the validation effort, sample results were qualified as follows:

- The result for carbon tetrachloride in the 568-fold diluted analysis of VMW-1-10 was qualified as estimated (J) because the reported concentration exceeded the calibration range of the instrument. The result for carbon tetrachloride only was taken from the 1210-fold dilution of this sample and all other results were taken from the less diluted analysis.

All laboratory-applied "E" and "D" qualifiers used to indicate a concentration that exceeded the calibration range and results from a more diluted analysis, respectively, were removed by the validator.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-26844.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: **STACK-10**

Lab Sample ID: 200-26884-6
Client Matrix: Air

Date Sampled: 02/27/2015 1129
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_24.D
Dilution:	175			Initial Weight/Volume:	32 mL
Analysis Date:	03/04/2015 0624			Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0624			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	880	U	120	880
Methylene Chloride	88	U	21	88
Chloroform	370		6.7	35
Carbon tetrachloride	6500		1.9	35

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	2100	U	290	2100
Methylene Chloride	300	U	73	300
Chloroform	1800		32	170
Carbon tetrachloride	41000		12	220

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: **INLET-10**

Lab Sample ID: 200-26884-5
Client Matrix: Air

Date Sampled: 02/27/2015 1124
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_23.D
Dilution:	1290			Initial Weight/Volume:	35 mL
Analysis Date:	03/04/2015 0532			Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0532			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	6500	U	890	6500
Methylene Chloride	650	U	150	650
Chloroform	2000		49	260
Carbon tetrachloride	32000		14	260

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	15000	U	2100	15000
Methylene Chloride	2200	U	540	2200
Chloroform	9900		240	1300
Carbon tetrachloride	200000		89	1600

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: VMW-1-10

Lab Sample ID: 200-26884-2
Client Matrix: Air

Date Sampled: 02/27/2015 1055
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_20.D
Dilution:	568 , 1210			Initial Weight/Volume:	21 mL
Analysis Date:	03/04/2015 0258			Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0258			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	2800	U	390	2800
Methylene Chloride	280	U	68	280
Chloroform	2000		22	110
Carbon tetrachloride	~~29000~~ 23000	E	~~6.2~~ 13	~~110~~ 240

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	6700	U	930	6700
Methylene Chloride	990	U	240	990
Chloroform	9700		110	550
Carbon tetrachloride	~~180000~~ 140000	E	~~39~~ 84	~~710~~ 1500

ccc 03/17/15

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: **VMW-1-10**

Lab Sample ID: 200-26884-2
Client Matrix: Air

Date Sampled: 02/27/2015 1055
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_28.D
Dilution:	1210			Initial Weight/Volume:	26 mL
Analysis Date:	03/04/2015 0949	Run Type:	DL	Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0949			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	6100	U	830	6100
Methylene Chloride	610	U	150	610
Chloroform	1500	~~D~~	46	240
Carbon tetrachloride	23000	~~D~~	13	240

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	14000	U	2000	14000
Methylene Chloride	2100	U	500	2100
Chloroform	7400	~~D~~	220	1200
Carbon tetrachloride	140000	~~D~~	84	1500

Do Not Use - ere 03/17/15

ere 03/17/15

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: **VMW-2-10**

Lab Sample ID: 200-26884-3
Client Matrix: Air

Date Sampled: 02/27/2015 1104
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_21.D
Dilution:	65.3			Initial Weight/Volume:	50 mL
Analysis Date:	03/04/2015 0350			Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0350			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	330	U	45	330
Methylene Chloride	33	U	7.8	33
Chloroform	150		2.5	13
Carbon tetrachloride	1900		0.72	13

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	780	U	110	780
Methylene Chloride	110	U	27	110
Chloroform	720		12	64
Carbon tetrachloride	12000		4.5	82

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: VMW-3C-10

Lab Sample ID: 200-26884-4
Client Matrix: Air

Date Sampled: 02/27/2015 1116
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_22.D
Dilution:	698			Initial Weight/Volume:	40 mL
Analysis Date:	03/04/2015 0441			Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0441			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	3500	U	480	3500
Methylene Chloride	350	U	84	350
Chloroform	860		27	140
Carbon tetrachloride	16000		7.7	140

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	8300	U	1100	8300
Methylene Chloride	1200	U	290	1200
Chloroform	4200		130	680
Carbon tetrachloride	100000		48	880

Client: Ertec

Job Number: 200-26884-1
Sdg Number: 200-26884

Client Sample ID: ~~TB022715~~ TB 022715 on 03/17/15

Lab Sample ID: 200-26884-1
Client Matrix: Air

Date Sampled: 02/27/2015 0000
Date Received: 02/28/2015 0950

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-85045	Instrument ID:	CHG.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	12372_19.D
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	03/04/2015 0207			Final Weight/Volume:	200 mL
Prep Date:	03/04/2015 0207			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5.0	U	0.69	5.0
Methylene Chloride	0.50	U	0.12	0.50
Chloroform	0.20	U	0.038	0.20
Carbon tetrachloride	0.20	U	0.011	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12	U	1.6	12
Methylene Chloride	1.7	U	0.42	1.7
Chloroform	0.98	U	0.19	0.98
Carbon tetrachloride	1.3	U	0.069	1.3

Eden Environmental, LLC

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity; but the result may be biased high.
J-	The result is an estimated quantity; but the result may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

Eden Environmental, LLC

May 4, 2015

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on April 1, 2015, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-27361:

STACK-11	INLET-11	VMW-1-11
VMW-2-11	VMW-3C-11	SVE-A
TB-040115		

The data package was received on April 27, 2015. The laboratory performed well, and no qualifiers were added by the validator. The laboratory appropriately applied "J" qualifiers to indicate estimated concentrations below the sample-specific RLs. The validator did not remove these qualifiers.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –14-5288

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-27361
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: May 4, 2015

13103/ESC/CEW
200-27361-TO-15

Eden Environmental, LLC

INTRODUCTION

The following samples were collected on April 1, 2015, submitted to TestAmerica in Burlington, Vermont, and assigned to Sample Delivery Group (SDG) 200-27361:

STACK-11	INLET-11	VMW-1-11
VMW-2-11	VMW-3C-11	SVE-A
TB-040115		

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were in good condition with container custody seals intact. Copies of the chain of custody records were also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for four bromofluorobenzene (BFB) instrument performance checks. Requirements for all four instrument performance checks were met.

III. Calibration

These samples were analyzed on a two gas chromatography/mass spectrometry (GC/MS) systems, which were identified as "CHB" and "CHW." Manual integrations were performed on methylene chloride and chloroform in the 0.50 parts per billion (ppb) standards on instrument CHW. Documentation of these integrations were included in the data package and confirming the integrations were properly performed and correctly incorporated into the associated quantitation report. No evidence was presented in the data package to indicate that manual integrations were performed on any other project-specified target compounds or on any of the internal standards in any of the standards used to establish the calibration curves.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

ICs were established on March 10, 2015, on instrument CHB and on March 3, 2015, on instrument CHW. An ICV was analyzed immediately following each IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of a single CV standard analyzed on each instrument was present in the data package. All reported sample analyses were associated with this standard. All criteria were met for both of these standards.

IV. Blanks

A laboratory blank was analyzed in each analytical sequence containing the site samples. No project-specified target analytes were detected in either of the laboratory blanks.

A trip blank (TB-040115) was submitted with the samples in this data set. No project-specified target analytes were detected in TB-011315.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in each analytical sequence containing the reported samples. Each LCS was spiked with all of the project-specified target analytes. Recoveries of the target analytes in both LCSs were within the quality control limits specified by the validation guidance document.

VII. Laboratory Replicate Analyses

STACK-11 was analyzed as a laboratory replicate. Reproducibility between the positively paired results for acetone, chloroform, and carbon tetrachloride was within the laboratory-specified acceptance limits ($\leq$25 relative percent difference [RPD]). Methylene chloride was detected in STACK-11 below the RL but was not confirmed in the laboratory replicate. Since the concentration in STACK-11 was within $\pm$ RL, no data were qualified based on professional judgment.

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain.

SVE-A was collected as a co-located sample of VMW-2-11. Acceptable reproducibility between concentrations reported for chloroform and carbon tetrachloride was observed. Acetone and methylene chloride were not detected in either of these samples; therefore, no further quantitative evaluation of precision could be made from these data.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standards in the ICs were 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standards used to establish both ICs and are supported by the reported data.

The low concentration IC standards for acetone were 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

The laboratory appropriately applied "J" qualifiers to indicate estimated concentrations below the sample-specific RLs. The validator did not remove these qualifiers.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

With regard to the chain of custody records,

- Improper editing was noted on the sample identification for VMW-2-11. For all future sampling efforts, changes to the chain of custody record must be made by drawing a single line through the error, inserting the correct information, and initialing and dating the correction.

- The laboratory sample received by signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort did not result in the qualification of any sample results; the validator did not add any qualifiers to the laboratory reported results.

The laboratory appropriately applied "J" qualifiers to indicate estimated concentrations below the sample-specific RLs. The validator did not remove these qualifiers.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-27361.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: STACK-11

Lab Sample ID: 200-27361-6
Client Matrix: Air

Date Sampled: 04/01/2015 1230
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86514	Instrument ID:	CHW.I
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13006_017.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	04/07/2015 2352			Final Weight/Volume:	200 mL
Prep Date:	04/07/2015 2352			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	6.6		0.69	5.0
Methylene Chloride	0.13	J	0.12	0.50
Chloroform	0.23		0.038	0.20
Carbon tetrachloride	2.9		0.011	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	16		1.6	12
Methylene Chloride	0.45	J	0.42	1.7
Chloroform	1.1		0.19	0.98
Carbon tetrachloride	18		0.069	1.3

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: INLET-11

Lab Sample ID: 200-27361-5
Client Matrix: Air

Date Sampled: 04/01/2015 1224
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86514	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13006_016.d
Dilution:	4180			Initial Weight/Volume:	26 mL
Analysis Date:	04/07/2015 2301			Final Weight/Volume:	200 mL
Prep Date:	04/07/2015 2301			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	21000	U	2900	21000
Methylene Chloride	2100	U	500	2100
Chloroform	4800		160	840
Carbon tetrachloride	120000		46	840

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	50000	U	6900	50000
Methylene Chloride	7300	U	1700	7300
Chloroform	24000		780	4100
Carbon tetrachloride	740000		290	5300

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: VMW-1-11

Lab Sample ID: 200-27361-3
Client Matrix: Air

Date Sampled: 04/01/2015 1215
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86600	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13039_10.D
Dilution:	7040			Initial Weight/Volume:	41 mL
Analysis Date:	04/08/2015 2208			Final Weight/Volume:	200 mL
Prep Date:	04/08/2015 2208			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	35000	U	4900	35000
Methylene Chloride	3500	U	840	3500
Chloroform	5200		270	1400
Carbon tetrachloride	170000		77	1400

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	84000	U	12000	84000
Methylene Chloride	12000	U	2900	12000
Chloroform	25000		1300	6900
Carbon tetrachloride	1100000		490	8900

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: VMW-2-11

Lab Sample ID: 200-27361-1
Client Matrix: Air

Date Sampled: 04/01/2015 1200
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86600	Instrument ID:	CHB.I
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13039_08.D
Dilution:	5180			Initial Weight/Volume:	45 mL
Analysis Date:	04/08/2015 2024			Final Weight/Volume:	200 mL
Prep Date:	04/08/2015 2024			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	26000	U	3600	26000
Methylene Chloride	2600	U	620	2600
Chloroform	5100		200	1000
Carbon tetrachloride	100000		57	1000

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	62000	U	8500	62000
Methylene Chloride	9000	U	2200	9000
Chloroform	25000		960	5100
Carbon tetrachloride	650000		360	6500

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: VMW-3C-11

Lab Sample ID: 200-27361-4
Client Matrix: Air

Date Sampled: 04/01/2015 1220
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86514	Instrument ID:	CHW.I
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13006_015.d
Dilution:	4170			Initial Weight/Volume:	20 mL
Analysis Date:	04/07/2015 2212			Final Weight/Volume:	200 mL
Prep Date:	04/07/2015 2212			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	21000	U	2900	21000
Methylene Chloride	2100	U	500	2100
Chloroform	4600		160	830
Carbon tetrachloride	110000		46	830

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	50000	U	6800	50000
Methylene Chloride	7200	U	1700	7200
Chloroform	23000		770	4100
Carbon tetrachloride	660000		290	5200

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: SVE-A

Lab Sample ID: 200-27361-2
Client Matrix: Air

Date Sampled: 04/01/2015 1204
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86600	Instrument ID:	CHB.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13039_09.D
Dilution:	5490			Initial Weight/Volume:	32 mL
Analysis Date:	04/08/2015 2116			Final Weight/Volume:	200 mL
Prep Date:	04/08/2015 2116			Injection Volume:	5 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	27000	U	3800	27000
Methylene Chloride	2700	U	660	2700
Chloroform	5500		210	1100
Carbon tetrachloride	120000		60	1100

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	65000	U	9000	65000
Methylene Chloride	9500	U	2300	9500
Chloroform	27000		1000	5400
Carbon tetrachloride	730000		380	6900

Client: Ertec

Job Number: 200-27361-1
Sdg Number: 200-27361

Client Sample ID: TB-040115

Lab Sample ID: 200-27361-7TB
Client Matrix: Air

Date Sampled: 04/01/2015 0000
Date Received: 04/02/2015 1100

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-86514	Instrument ID:	CHW.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13006_019.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Analysis Date:	04/08/2015 0131			Final Weight/Volume:	200 mL
Prep Date:	04/08/2015 0131			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	5.0	U	0.69	5.0
Methylene Chloride	0.50	U	0.12	0.50
Chloroform	0.20	U	0.038	0.20
Carbon tetrachloride	0.20	U	0.011	0.20

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	12	U	1.6	12
Methylene Chloride	1.7	U	0.42	1.7
Chloroform	0.98	U	0.19	0.98
Carbon tetrachloride	1.3	U	0.069	1.3

Eden Environmental, LLC

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity; but the result may be biased high.
J-	The result is an estimated quantity; but the result may be biased low.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

Eden Environmental, LLC

May 18, 2015

Ms. Wanda Morales
ERTEC
Amur St. A - #5
Reparto Landrau
Rio Piedras, PR 00921

RE: Data Validation Report for the SVE TO-15 Air Monitoring of the Pfizer Arecibo Site

Dear Wanda,

Enclosed is the validation report for the air samples collected on April 30, 2015, from the Pfizer Arecibo Site. The following samples were submitted to TestAmerica in Burlington, Vermont and were assigned to Sample Delivery Group (SDG) 200-27772:

STACK-12	INLET-12	VMW-1-12
VMW-2-12	VMW-3C-12	

The data package was received on May 15, 2015. The laboratory performed well, and no qualifiers were added by the validator.

All samples were analyzed for acetone, methylene chloride, chloroform, and carbon tetrachloride in conformance with the specifications of USEPA Compendium Method TO-15. The validation effort was restricted to the reported results and supporting data for these compounds.

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

If you have any questions regarding this report, please give me a call at 225-355-0163 or contact me by e-mail at engrid@eden-env.com

Kindest regards,

Engrid Carpenter

Engrid S. Carpenter
President

Eden Environmental, LLC

ANALYTICAL DATA VALIDATION

ERTEC JOB DESCRIPTION – PFIZER ARECIBO – SVE

ERTEC JOB NUMBER –14-5288

ORGANIC ANALYSIS DATA

Prepared by: TestAmerica Laboratory, Burlington Vermont
Sample Delivery Group: 200-27772
Selected Volatile Organic Compounds in Air Samples

VALIDATION REPORT

Prepared by: Eden Environmental, LLC
Eden Project Number 13103

Date: May 18, 2015

13103/ESC/CEW
200-27772-TO-15

Eden Environmental, LLC

INTRODUCTION

The following samples were collected on April 30, 2015, submitted to TestAmerica in Burlington, Vermont, and assigned to Sample Delivery Group (SDG) 200-27772:

STACK-12	INLET-12	VMW-1-12
VMW-2-12	VMW-3C-12	

Data validation was performed in conformance with the specifications of the EPA Region II Standard Operating Procedure (Volatile Organic Analysis of Air Contained in Canisters by Method TO-15," SOP HW-31 Revision 6, June, 2014). When necessary, professional judgment was applied and appropriately noted in the applicable section of the attached report. The validation effort for these data has the label Stage 4 Validation Manual (S4VM).

Anomalies detected during the validation effort (if any) are included in the appropriate section of the attached report. The Laboratory Analytical Data Forms with all qualifiers resulting from the validation effort (if any were necessary) are included in Attachment A. The EPA Region II qualifiers and their definitions are included in Attachment B.

I. Holding Times, Preservation, and Sample Integrity

All TO-15 analyses were performed within holding time. A copy of the Laboratory Login Sample Receipt Checklist noted that all samples were in good condition with container custody seals intact. A copy of the chain of custody record was also present in the data package and included all of the samples in this data set. Therefore, all requirements for holding times and sample integrity were met. No physical preservation requirements are specified for Summa® canisters.

II. GC/MS Instrument Performance Checks

Results were reported for two bromofluorobenzene (BFB) instrument performance checks. Requirements for both instrument performance checks were met.

III. Calibration

These samples were analyzed on a single gas chromatography/mass spectrometry (GC/MS) system, which was identified as "CHX." No evidence was presented in the data package to indicate that manual integrations were performed on any of the project-specified target compounds or on any of the internal standards in any of the calibration standards.

A. Initial Calibration (IC) and Initial Calibration Verification (ICV)

IC was established on March 19, 2015. An ICV was analyzed immediately following the IC. EPA Region II-specified acceptance criteria were met for all of these standards.

B. Continuing Verification (CV)

Documentation of a single CV standard was present in the data package. All reported sample analyses were associated with this standard, and all EPA Region II-specified acceptance criteria were met for this standard.

IV. Blanks

A laboratory blank was analyzed in the analytical sequence containing the site samples. No project-specified target analytes were detected in the laboratory blank.

No trip blank was submitted with the samples in this data set.

V. Surrogate Recoveries

The use of a surrogate compound is not addressed in Method TO-15. A surrogate compound was not employed in the analyses of these samples.

VI. Laboratory Check Standard (Audit Accuracy Standard)

A 10 ppbv laboratory check standard (identified as LCS) was analyzed in the analytical sequence containing the reported samples. The LCS was spiked with all of the project-specified target analytes. Recoveries of the target analytes were within the quality control limits specified by the validation guidance document.

VII. Laboratory Replicate Analyses

STACK-12 was analyzed as a laboratory replicate. Reproducibility between the positively paired results for chloroform and carbon tetrachloride was within the laboratory-specified acceptance limits ($\leq$25 relative percent difference [RPD]).

VIII. Field Duplicates

Collection of true field duplicates is not feasible for air samples; therefore, a better description of these quality control samples would be co-located samples. The validation guidance document does not provide an acceptance criterion for RPDs between reported concentrations in "field duplicate" samples. For the purpose of this validation effort, a maximum acceptance limit of 100 RPD was used to define acceptable agreement between reported results in the co-located samples. Results with RPD values greater than 100 RPD should be used with caution as the concentration and source of these compounds in the reported samples is uncertain. No co-located samples were included in this data package.

IX. Internal Standard Performance

The validator confirmed that the areas and retention times of all three internal standards were within the method-specified acceptance limits for the reported site and quality control analyses.

X. Target Compound Identification

When detected, the target analyte was correctly identified with acceptable supporting mass spectral data present in the data package.

XI. Compound Quantitation and Reporting Limits (RLs)

A RL of ≤0.50 ppbv is a required performance criterion for this project. The low concentration standards in the IC were 0.50 ppbv for methylene chloride, 0.20 ppbv for chloroform, and 0.04 ppbv for carbon tetrachloride. The unadjusted RLs are equivalent to or higher than the low concentration standard used to establish the IC and are supported by the reported data.

The low concentration IC standard for acetone was 5.0 ppbv, which is also the RL used for this analyte and supported by the reported data. The RL for acetone does not meet the performance criterion for this project, but does reflect the best efforts of the laboratory.

XII. Tentatively Identified Compounds (TICs)

Library searches were not requested for these samples.

XIII. Documentation

With regard to the chain of custody record, the laboratory sample "received by" signature is illegible.

All of the laboratory sample receipt information was provided on the laboratory-generated Login Sample Receipt Checklist, which confirmed that all samples were properly documented and shipped in custody sealed containers.

A copy of the FedEx airbill was included in the data package to document the transfer of the samples from the field to the laboratory.

The Laboratory Analytical Data Forms also include a column identified as MDL. Unadjusted MDLs for the target compounds are not supported by the data as received. Therefore, it is recommended that the RLs rather than the MDLs be used as the lowest supported limit of detection.

XIV. Overall Assessment

Findings of the validation effort did not result in the qualification of any sample results; the validator did not add any qualifiers to the laboratory reported results.

This validation effort is based on the data as provided by the laboratory. Software manipulation cannot be routinely detected during validation and is outside the scope of this review.

This validation report should be added to the data package for all future distributions of the TO-15 data reported in SDG 200-27772.

Eden Environmental, LLC

ATTACHMENT A

LABORATORY ANALYTICAL DATA FORMS

Client: Ertec

Job Number: 200-27772-1
Sdg Number: 200-27772

Client Sample ID: **STACK-12**

Lab Sample ID: 200-27772-5
Client Matrix: Air

Date Sampled: 04/30/2015 1202
Date Received: 05/01/2015 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-87762	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13398-018.D
Dilution:	227			Initial Weight/Volume:	23 mL
Analysis Date:	05/04/2015 2259			Final Weight/Volume:	200 mL
Prep Date:	05/04/2015 2259			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	1100	U	160	1100
Methylene Chloride	110	U	27	110
Chloroform	340		8.6	45
Carbon tetrachloride	7200		2.5	45

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	2700	U	370	2700
Methylene Chloride	390	U	95	390
Chloroform	1600		42	220
Carbon tetrachloride	45000		16	290

Client: Ertec

Job Number: 200-27772-1
Sdg Number: 200-27772

Client Sample ID: **INLET-12**

Lab Sample ID: 200-27772-4
Client Matrix: Air

Date Sampled: 04/30/2015 1150
Date Received: 05/01/2015 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-87762	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13398-017.D
Dilution:	1870			Initial Weight/Volume:	26 mL
Analysis Date:	05/04/2015 2210			Final Weight/Volume:	200 mL
Prep Date:	05/04/2015 2210			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	9400	U	1300	9400
Methylene Chloride	940	U	220	940
Chloroform	2300		71	370
Carbon tetrachloride	42000		21	370

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	22000	U	3100	22000
Methylene Chloride	3200	U	780	3200
Chloroform	11000		350	1800
Carbon tetrachloride	260000		130	2400

Client: Ertec

Job Number: 200-27772-1
Sdg Number: 200-27772

Client Sample ID: VMW-1-12

Lab Sample ID: 200-27772-1
Client Matrix: Air

Date Sampled: 04/30/2015 1119
Date Received: 05/01/2015 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-87762	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13398-014.D
Dilution:	2400			Initial Weight/Volume:	25 mL
Analysis Date:	05/04/2015 1942			Final Weight/Volume:	200 mL
Prep Date:	05/04/2015 1942			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	12000	U	1700	12000
Methylene Chloride	1200	U	290	1200
Chloroform	3400		91	480
Carbon tetrachloride	53000		26	480

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	29000	U	3900	29000
Methylene Chloride	4200	U	1000	4200
Chloroform	17000		450	2300
Carbon tetrachloride	330000		170	3000

Client: Ertec

Job Number: 200-27772-1
Sdg Number: 200-27772

Client Sample ID: **VMW-2-12**

Lab Sample ID: 200-27772-2
Client Matrix: Air

Date Sampled: 04/30/2015 1129
Date Received: 05/01/2015 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-87762	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13398-015.D
Dilution:	1620			Initial Weight/Volume:	20 mL
Analysis Date:	05/04/2015 2031			Final Weight/Volume:	200 mL
Prep Date:	05/04/2015 2031			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	8100	U	1100	8100
Methylene Chloride	810	U	190	810
Chloroform	2900		62	320
Carbon tetrachloride	43000		18	320

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	19000	U	2700	19000
Methylene Chloride	2800	U	680	2800
Chloroform	14000		300	1600
Carbon tetrachloride	270000		110	2000

Client: Ertec

Job Number: 200-27772-1
Sdg Number: 200-27772

Client Sample ID: VMW-3C-12

Lab Sample ID: 200-27772-3
Client Matrix: Air

Date Sampled: 04/30/2015 1140
Date Received: 05/01/2015 1045

TO-15 Volatile Organic Compounds in Ambient Air

Analysis Method:	TO-15	Analysis Batch:	200-87762	Instrument ID:	CHX.i
Prep Method:	Summa Can	Prep Batch:	N/A	Lab File ID:	13398-016.D
Dilution:	1490			Initial Weight/Volume:	33 mL
Analysis Date:	05/04/2015 2121			Final Weight/Volume:	200 mL
Prep Date:	05/04/2015 2121			Injection Volume:	200 mL

Analyte	Result (ppb v/v)	Qualifier	MDL	RL
Acetone	7500	U	1000	7500
Methylene Chloride	750	U	180	750
Chloroform	1700		57	300
Carbon tetrachloride	32000		16	300

Analyte	Result (ug/m3)	Qualifier	MDL	RL
Acetone	18000	U	2400	18000
Methylene Chloride	2600	U	620	2600
Chloroform	8400		280	1500
Carbon tetrachloride	200000		100	1900

Eden Environmental, LLC

ATTACHMENT B

EPA REGION II QUALIFIERS AND THEIR DEFINITIONS

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The analyte was positively identified. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity; but the result may be biased high.

J- The result is an estimated quantity; but the result may be biased low.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ The analyte was analyzed for but not detected. The reported quantitation limit may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.

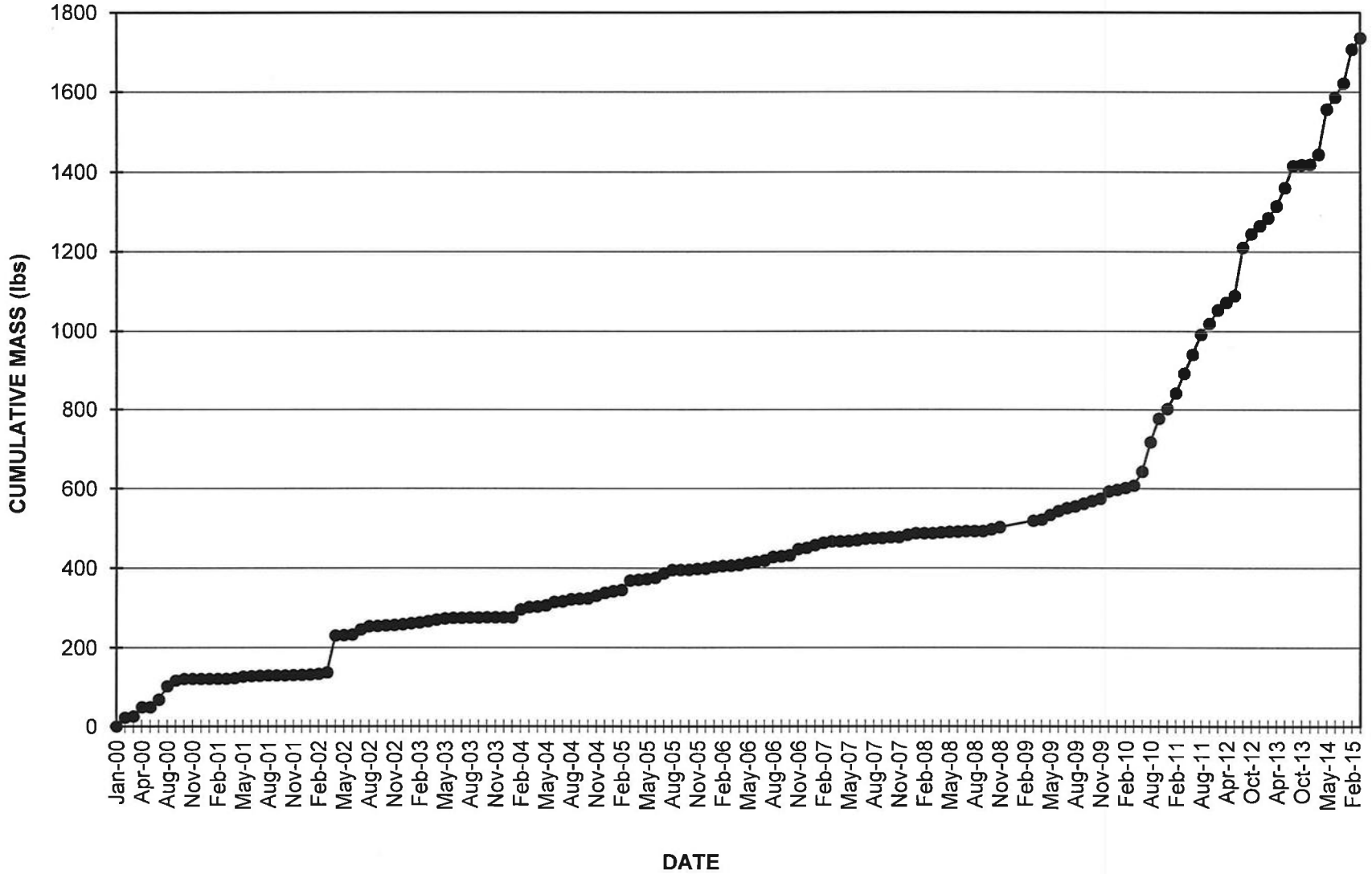
APPENDIX 4

TOTAL VOCs CUMULATIVE MONTHLY EXTRACTION

SVE PULSING OPERATIONS PROGRESS REPORT NO. 9
SEPTEMBER 2014 TO APRIL 2015
PFIZER PHARMACEUTICALS LLC
ARECIBO, PUERTO RICO
ERTEC JOB NO. E145288

ERTEC

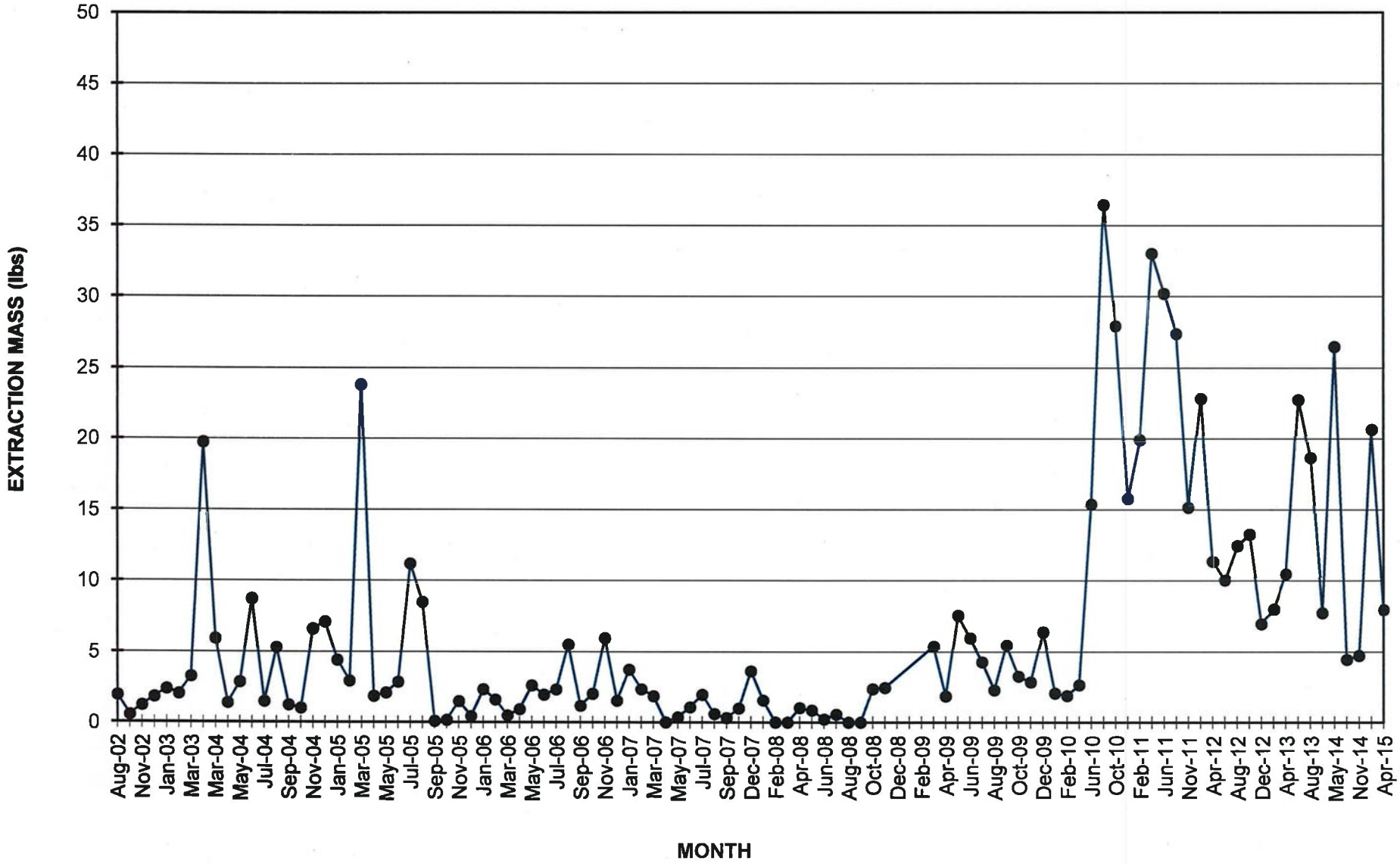
TOTAL VOCs CUMULATIVE MONTHLY EXTRACTION



Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014.

ERTEC

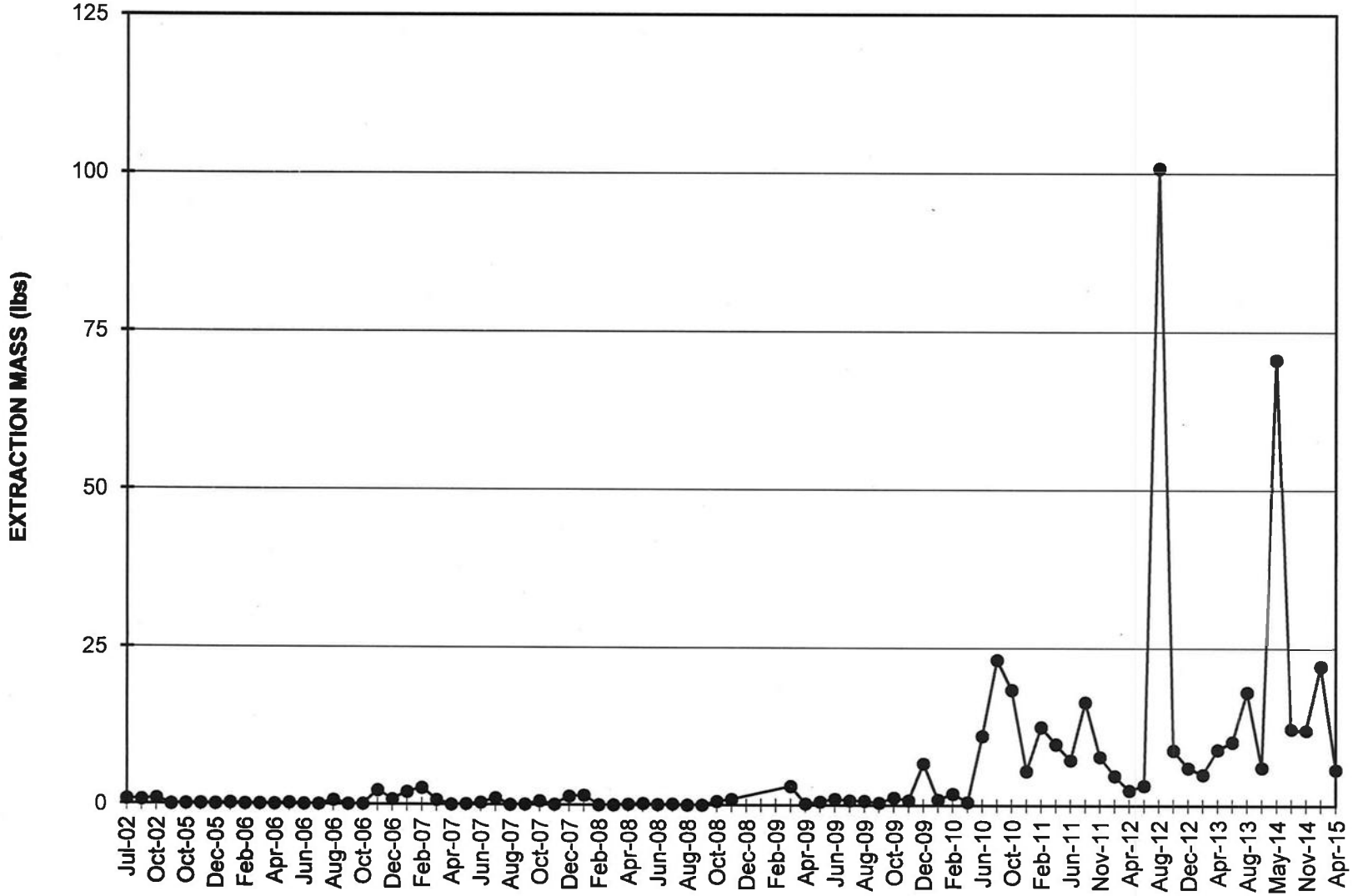
VMW-1 (150 FEET)
TOTAL VOCs MONTHLY EXTRACTION



Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014.

ERTEC

VMW-2 (170 FEET)
TOTAL VOCs MONTHLY EXTRACTION

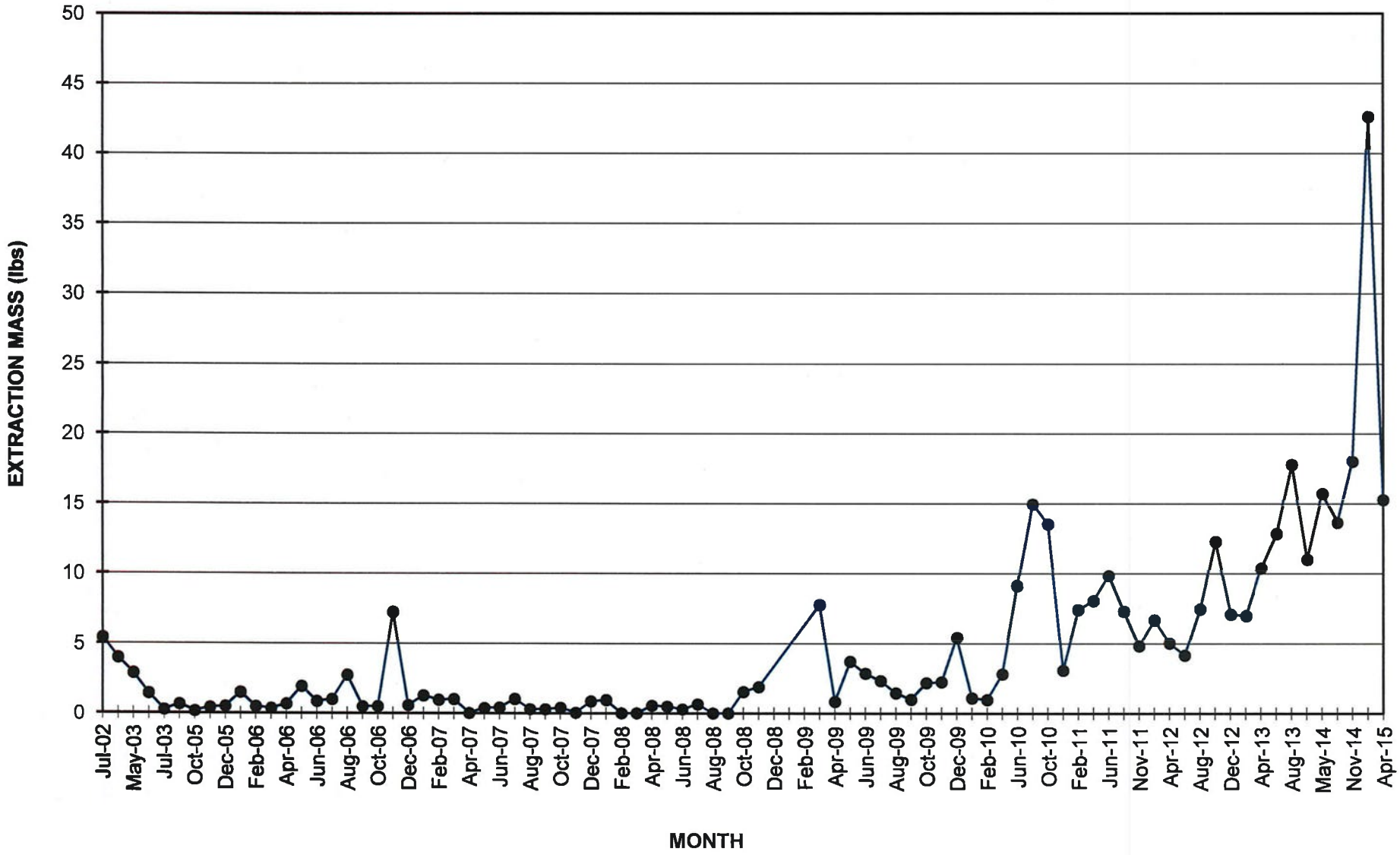


Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014.

ERTEC

D750384d E145288

VMW-3C (195 FEET)
TOTAL VOCs MONTHLY EXTRACTION

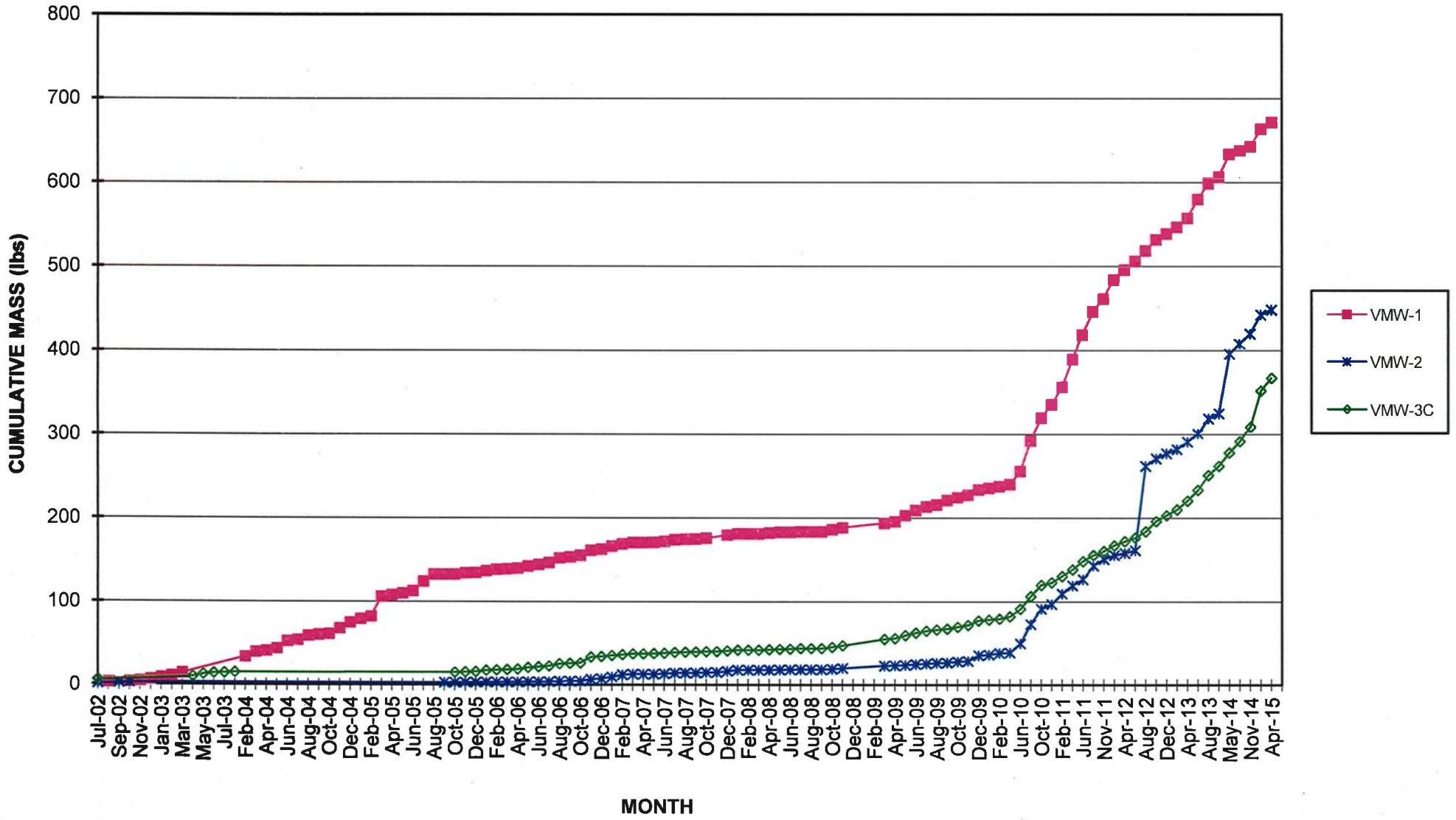


Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014.

ERTEC

D750384e E145288

VMW-1 (150 FEET), VMW-2 (170 FEET) AND VMW-3C (195 FEET)
TOTAL VOCs CUMULATIVE EXTRACTION



Pulsing procedures since February 2010. Pulsing on-off periods on 1-month basis from February thru May 2014.
Pulsing on/off periods on 2-months basis from June thru August 2014.

ERTEC

D750384f E145288